

ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY
CLASS I AIR QUALITY CONTROL PERMIT

COMPANY: Phoenix Cement Company
FACILITY: Portland Cement Plant
PERMIT NO: 35426
DATE ISSUED:
EXPIRY DATE: Five years from the date issued

SUMMARY

This permit is a significant revision of the Title V Air Quality Control Permit (AQCP) No. 1001785 issued on June 26, 2002 to Phoenix Cement Company (PCC), the Permittee, for the operation of its Portland cement plant and quarry at 3000 West Cement Plant Road in Clarkdale, Arizona. The purpose of this significant revision is to include into the Title V permit, the equipment associated with Kiln 4 modernization project requested by PCC in its application for Permit No. 1001717, which was subsequently issued on February 26, 2002. The modernization brought forth primarily the installation and operation of a five-stage, suspension pre-heater with in-line calciner (ILC), rotary kiln, in-line raw mill/coal mill, clinker cooler, Onoda-Kobe (OK) finish mill, and clinker storage domes. To prevent triggering the Prevention of Significant Deterioration (PSD) requirements, PCC has voluntarily accepted the emission limits and emissions caps listed below:

Facility-wide Emission Limits (rolling 12-month total):

PM: 773 tons per year
PM₁₀: 460 tons per year
SO₂: 401 tons per year
NO_x: 3,271 tons per year
CO: 764 tons per year
VOC: 41.5 tons per year

Kiln 4/In-Line Raw Mill and Coal Mill Emission Limits (rolling 12-month total):

NO_x: 3,240 tons per year
CO: 698 tons per year
SO₂: 400 tons per year

Kiln 4/In-Line Raw Mill and Coal Mill Emission Limits (rolling 8-hour average):

CO: 2.0 pounds per ton of clinker (lb/ton)

Quarry Explosives Usage:

913 tons per year (rolling 12-month total), 70 tons per calendar day, and 10 tons per hour

The Permit is issued in accordance with Title 49, Chapter 3 of the Arizona Revised Statutes. All definitions, terms, and conditions used in the Permit conform to those in the Arizona Administrative Code R18-2-101 et. seq. (A.A.C.) and 40 Code of Federal Regulations (CFR), except as otherwise defined in the Permit. All terms and conditions in the Permit are enforceable by the Administrator of the U.S. Environmental Protection Agency. Issuance of the Permit voids and supersedes all previously issued operating permits.

TABLE OF CONTENTS

ATTACHMENT “A”: GENERAL PROVISIONS.....	3
I. PERMIT EXPIRATION AND RENEWAL	3
II. COMPLIANCE WITH PERMIT CONDITIONS	3
III. PERMIT REVISION, REOPENING, REVOCATION AND REISSUANCE, OR TERMINATION FOR CAUSE.....	3
IV. POSTING OF PERMIT	4
V. FEE PAYMENT	4
VI. ANNUAL EMISSION INVENTORY QUESTIONNAIRE.....	4
VII. COMPLIANCE CERTIFICATION.....	4
VIII. CERTIFICATION OF TRUTH, ACCURACY AND COMPLETENESS.....	5
IX. INSPECTION AND ENTRY.....	5
X. PERMIT REVISION PURSUANT TO FEDERAL HAZARDOUS AIR POLLUTANT STANDARD.....	5
XI. ACCIDENTAL RELEASE PROGRAM	6
XII. EXCESS EMISSIONS, PERMIT DEVIATIONS, AND EMERGENCY REPORTING	6
XIII. RECORD KEEPING REQUIREMENTS.....	9
XIV. REPORTING REQUIREMENTS.....	10
XV. DUTY TO PROVIDE INFORMATION	10
XVI. PERMIT AMENDMENT OR REVISION	10
XVII. FACILITY CHANGE WITHOUT A PERMIT REVISION	10
XVIII. TESTING REQUIREMENTS	11
XIX. PROPERTY RIGHTS.....	12
XX. SEVERABILITY CLAUSE.....	13
XXI. PERMIT SHIELD.....	13
XXII. PROTECTION OF STRATOSPHERIC OZONE	13
ATTACHMENT “B”: SPECIFIC CONDITIONS	14
I. GENERAL REQUIREMENTS	14
II. FACILITY-WIDE OPERATIONS GOVERNED BY VOLUNTARILY ACCEPTED PROVISIONS.....	15
III. PORTLAND CEMENT OPERATIONS GOVERNED BY MAXIMUM AVAILABLE CONTROL TECHNOLOGY (MACT) STANDARDS.....	20
IV. QUARRY AND RAW MATERIAL CRUSHING	33
V. COAL PREPARATION OPERATIONS.....	40
VI. COOLING TOWERS AND OTHER UNCLASSIFIED POINT SOURCES	45
VII. FUGITIVE DUST SOURCES	46
VIII. OTHER PERIODIC ACTIVITIES	48
IX. AMBIENT MONITORING REQUIREMENTS	51
ATTACHMENT “C”: EQUIPMENT LIST	54
ATTACHMENT “D”: DUST CONTROL PLAN	65
I. INTRODUCTION.....	65
II. CONTROL PLAN	65
III. MONITORING	66
ATTACHMENT “E”: OPERATION AND MAINTENANCE PLAN	67

ATTACHMENT “A”: GENERAL PROVISIONS

Air Quality Control Permit No. 35426 For Phoenix Cement Company

I. PERMIT EXPIRATION AND RENEWAL

[ARS §49-426.F, A.A.C. R18-2-304.C.2, and -306.A.1]

- A. This permit is valid for a period of five years from the date of issuance.
- B. The Permittee shall submit an application for renewal of this permit at least 6 months, but not more than 18 months, prior to the date of permit expiration.

II. COMPLIANCE WITH PERMIT CONDITIONS

[A.A.C. R18-2-306.A.8.a and b]

- A. The Permittee shall comply with all conditions of this permit including all applicable requirements of the Arizona air quality statutes and air quality rules. Any permit noncompliance constitutes a violation of the Arizona Revised Statutes and is grounds for enforcement action; for permit termination, revocation and reissuance, or revision; or for denial of a permit renewal application. In addition, noncompliance with any federally enforceable requirement constitutes a violation of the Clean Air Act.
- B. It shall not be a defense for a Permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

III. PERMIT REVISION, REOPENING, REVOCATION AND REISSUANCE, OR TERMINATION FOR CAUSE

[A.A.C. R18-2-306.A.8.c, -321.A.1, and -321.A.2]

- A. The permit may be revised, reopened, revoked and reissued, or terminated for cause. The filing of a request by the Permittee for a permit revision, revocation and reissuance, termination, or of a notification of planned changes or anticipated noncompliance does not stay any permit condition.
- B. The permit shall be reopened and revised under any of the following circumstances
 - 1. Additional applicable requirements under the Clean Air Act become applicable to the Class I source. Such a reopening shall only occur if there are three or more years remaining in the permit term. The reopening shall be completed no later than 18 months after promulgation of the applicable requirement. No such reopening is required if the effective date of the requirement is later than the date on which the permit is due to expire, unless an application for renewal has been submitted pursuant to A.A.C. R18-2-322.B. Any permit revision required pursuant to this subparagraph shall comply with the provisions in A.A.C. R18-2-322 for permit renewal and shall reset the five-year permit term.
 - 2. Additional requirements, including excess emissions requirements, become applicable to an affected source under the acid rain program. Upon approval by the Administrator, excess emissions offset plans shall be deemed to be incorporated into the Class I permit.
 - 3. The Director or the Administrator determines that the permit contains a material mistake or that inaccurate statements were made in establishing the emissions standards or other terms or conditions of the permit.

4. The Director or the Administrator determines that the permit needs to be revised or revoked to assure compliance with the applicable requirements.
- C. Proceedings to reopen and reissue a permit, including appeal of any final action relating to a permit reopening, shall follow the same procedures as apply to initial permit issuance and shall, except for reopenings under Condition III.B.1 above, affect only those parts of the permit for which cause to reopen exists. Such reopenings shall be made as expeditiously as practicable. Permit reopenings for reasons other than those stated in Condition III.B.1 above shall not result in a resetting of the five-year permit term.

IV. POSTING OF PERMIT

[A.A.C. R18-2-315]

- A. The Permittee shall post this permit or a certificate of permit issuance where the facility is located in such a manner as to be clearly visible and accessible. All equipment covered by this permit shall be clearly marked with one of the following:
 1. Current permit number; or
 2. Serial number or other equipment ID number that is also listed in the permit to identify that piece of equipment
- B. A copy of the complete permit shall be kept on site.

V. FEE PAYMENT

[A.A.C. R18-2-306.A.9 and -326]

The Permittee shall pay fees to the Director pursuant to ARS §49-426(E) and A.A.C. R18-2-326.

VI. ANNUAL EMISSION INVENTORY QUESTIONNAIRE

[A.A.C. R18-2-327.A and B]

- A. The Permittee shall complete and submit to the Director an annual emissions inventory questionnaire. The questionnaire is due by March 31st or ninety days after the Director makes the inventory form available each year, whichever occurs later, and shall include emission information for the previous calendar year.
- B. The questionnaire shall be on a form provided by the Director and shall include the information required by A.A.C. R18-2-327.

VII. COMPLIANCE CERTIFICATION

[A.A.C. R18-2-309.2.a, -309.2.c-d, and -309.5.d]

- A. The Permittee shall submit a compliance certification to the Director semiannually, which describes the compliance status of the source with respect to each permit condition. The first certification shall be submitted no later than May 15th, and shall report the compliance status of the source during the period between October 1st of the previous year and March 31st of the current year. The second certification shall be submitted no later than November 15th, and shall report the compliance status of the source during the period between April 1st and September 30th of the current year.

The compliance certifications shall include the following:

1. Identification of each term or condition of the permit that is the basis of the certification;
2. Identification of the methods or other means used by the Permittee for determining the compliance status with each term and condition during the certification period;
3. The status of compliance with the terms and conditions of the permit for the period covered by

the certification, including whether compliance during the period was continuous or intermittent; The certification shall be based on the methods and means designated in Condition VII.A.2 above. The certifications shall identify each deviation and take into account for consideration in the compliance certification;

4. For emission units subject to 40 CFR Part 64, the certification shall also identify as possible exceptions to compliance any period during which compliance is required and in which an excursion or exceedance defined under 40 CFR Part 64 occurred;
5. All instances of deviations from permit requirements reported pursuant to Condition XII.B of this Attachment; and
6. Other facts the Director may require to determine the compliance status of the source.

B. A copy of all compliance certifications shall also be submitted to the EPA Administrator.

C. If any outstanding compliance schedule exists, a progress report shall be submitted with the semi-annual compliance certifications required in Condition VII.A above.

VIII. CERTIFICATION OF TRUTH, ACCURACY AND COMPLETENESS

[A.A.C. R18-2-304.H]

Any document required to be submitted by this permit, including reports, shall contain a certification by a responsible official of truth, accuracy, and completeness. This certification shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

IX. INSPECTION AND ENTRY

[A.A.C. R18-2-309.4]

- A. Upon presentation of proper credentials, the Permittee shall allow the Director or the authorized representative of the Director to:
- B. Enter upon the Permittee's premises where a source is located, emissions-related activity is conducted, or where records are required to be kept under the conditions of the permit;
- C. Have access to and copy, at reasonable times, any records that are required to be kept under the conditions of the permit;
- D. Inspect, at reasonable times, any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under the permit;
- E. Sample or monitor, at reasonable times, substances or parameters for the purpose of assuring compliance with the permit or other applicable requirements; and
- F. Record any inspection by use of written, electronic, magnetic and photographic media.

X. PERMIT REVISION PURSUANT TO FEDERAL HAZARDOUS AIR POLLUTANT STANDARD

[A.A.C. R18-2-304.C]

If this source becomes subject to a standard promulgated by the Administrator pursuant to Section 112(d) of the Act, then the Permittee shall, within twelve months of the date on which the standard is promulgated, submit an application for a permit revision demonstrating how the source will comply with the standard.

XI. ACCIDENTAL RELEASE PROGRAM

[40 CFR Part 68]

If this source becomes subject to the provisions of 40 CFR Part 68, then the Permittee shall comply with these provisions according to the time line specified in 40 CFR Part 68.

XII. EXCESS EMISSIONS, PERMIT DEVIATIONS, AND EMERGENCY REPORTING

A. Excess Emissions Reporting

[A.A.C. R18-2-310.01.A and -310.01.B]

1. Excess emissions shall be reported as follows:
 - a. The Permittee shall report to the Director any emissions in excess of the limits established by this permit. Such report shall be in two parts as specified below:
 - (1) Notification by telephone or facsimile within 24 hours of the time when the Permittee first learned of the occurrence of excess emissions including all available information from Condition XII.A.1.b below.
 - (2) Detailed written notification by submission of an excess emissions report within 72 hours of the notification pursuant to Condition XII.A.1.a.(1) above.
 - b. The report shall contain the following information:
 - (1) Identity of each stack or other emission point where the excess emissions occurred;
 - (2) Magnitude of the excess emissions expressed in the units of the applicable emission limitation and the operating data and calculations used in determining the magnitude of the excess emissions;
 - (3) Date, time and duration, or expected duration, of the excess emissions;
 - (4) Identity of the equipment from which the excess emissions emanated;
 - (5) Nature and cause of such emissions;
 - (6) If the excess emissions were the result of a malfunction, steps taken to remedy the malfunction and the steps taken or planned to prevent the recurrence of such malfunctions; and
 - (7) Steps taken to limit the excess emissions; if the excess emissions resulted from start-up or malfunction, the report shall contain a list of the steps taken to comply with the permit procedures.
2. In the case of continuous or recurring excess emissions, the notification requirements of this section shall be satisfied if the source provides the required notification after excess emissions are first detected and includes in such notification an estimate of the time the excess emissions will continue. Excess emissions occurring after the estimated time period or changes in the nature of the emissions as originally reported shall require additional notification pursuant to Condition XII.A.1 above.

[A.A.C. R18-2-310.01.C]

B. Permit Deviations Reporting

[A.A.C. R18-2-306.A.5.b]

The Permittee shall promptly report deviations from permit requirements, including those attributable to upset conditions as defined in the permit, the probable cause of such deviations, and any corrective actions or preventive measures taken. Prompt reporting shall mean that the report was submitted to the Director by certified mail, facsimile, or hand delivery within two working days of the time when emission limitations were exceeded due to an emergency or within two working days of the time when the owner or operator first learned of the occurrence of a deviation from a permit requirement.

C. Emergency Provision

[A.A.C. R18-2-306.E]

1. An “emergency” means any situation arising from sudden and reasonable unforeseeable events beyond the control of the source, including acts of God, that require immediate corrective action to restore normal operation, and that causes the source to exceed a technology-based emission limitation under the permit, due to unavoidable increases in emissions attributable to the emergency. An emergency shall not include noncompliance to the extent caused by improperly designed equipment, lack of preventative maintenance, careless or improper operation, or operator error.
2. An emergency constitutes an affirmative defense to an action brought for noncompliance with such technology-based emission limitations if Condition XII.C.3 is met.
3. The affirmative defense of emergency shall be demonstrated through properly signed, contemporaneous operating logs, or other relevant evidence that:
 - a. An emergency occurred and that the Permittee can identify the cause(s) of the emergency;
 - b. The permitted facility was being properly operated at the time;
 - c. During the period of the emergency, the Permittee took all reasonable steps to minimize levels of emissions that exceeded the emissions standards or other requirements in the permit; and
 - d. The Permittee submitted notice of the emergency to the Director by certified mail, facsimile, or hand delivery within two working days of the time when emission limitations were exceeded due to the emergency. This notice shall contain a description of the emergency, any steps taken to mitigate emissions, and corrective action taken.
4. In any enforcement proceeding, the Permittee seeking to establish the occurrence of an emergency has the burden of proof.
5. This provision is in addition to any emergency or upset provision contained in any applicable requirement.

D. Compliance Schedule

[ARS §49-426.I.5]

For any excess emission or permit deviation that cannot be corrected within 72 hours, the Permittee is required to submit a compliance schedule to the Director within 21 days of such occurrence. The compliance schedule shall include a schedule of remedial measures, including an enforceable sequence of actions with milestones, leading to compliance with the permit terms or conditions that have been violated.

E. Affirmative Defenses for Excess Emissions Due to Malfunctions, Startup, and Shutdown

[A.A.C. R18-2-310]

1. Applicability

This rule establishes affirmative defenses for certain emissions in excess of an emission standard or limitation and applies to all emission standards or limitations except for standards or limitations:

- a. Promulgated pursuant to Sections 111 or 112 of the Act;
- b. Promulgated pursuant to Titles IV or VI of the Clean Air Act;
- c. Contained in any Prevention of Significant Deterioration (PSD) or New Source Review (NSR) permit issued by the U.S. EPA;
- d. Contained in A.A.C. R18-2-715.F; or

- e. Included in a permit to meet the requirements of A.A.C. R18-2-406.A.5

2. Affirmative Defense for Malfunctions

Emissions in excess of an applicable emission limitation due to malfunction shall constitute a violation. When emissions in excess of an applicable emission limitation are due to a malfunction, the Permittee has an affirmative defense to a civil or administrative enforcement proceeding based on that violation, other than a judicial action seeking injunctive relief, if the Permittee has complied with the reporting requirements of A.A.C. R18-2-310.01 and has demonstrated all of the following:

- a. The excess emissions resulted from a sudden and unavoidable breakdown of process equipment or air pollution control equipment beyond the reasonable control of the Permittee;
- b. The air pollution control equipment, process equipment, or processes were at all times maintained and operated in a manner consistent with good practice for minimizing emissions;
- c. If repairs were required, the repairs were made in an expeditious fashion when the applicable emission limitations were being exceeded. Off-shift labor and overtime were utilized where practicable to ensure that the repairs were made as expeditiously as possible. If off-shift labor and overtime were not utilized, the Permittee satisfactorily demonstrated that the measures were impracticable;
- d. The amount and duration of the excess emissions (including any bypass operation) were minimized to the maximum extent practicable during periods of such emissions;
- e. All reasonable steps were taken to minimize the impact of the excess emissions on ambient air quality;
- f. The excess emissions were not part of a recurring pattern indicative of inadequate design, operation, or maintenance;
- g. During the period of excess emissions there were no exceedances of the relevant ambient air quality standards established in Title 18, Chapter 2, Article 2 of the Arizona Administrative Code that could be attributed to the emitting source;
- h. The excess emissions did not stem from any activity or event that could have been foreseen and avoided, or planned, and could not have been avoided by better operations and maintenance practices;
- i. All emissions monitoring systems were kept in operation if at all practicable; and
- j. The Permittee's actions in response to the excess emissions were documented by contemporaneous records.

3. Affirmative Defense for Startup and Shutdown

- a. Except as provided in Condition XII.E.3.b below, and unless otherwise provided for in the applicable requirement, emissions in excess of an applicable emission limitation due to startup and shutdown shall constitute a violation. When emissions in excess of an applicable emission limitation are due to startup and shutdown, the Permittee has an affirmative defense to a civil or administrative enforcement proceeding based on that violation, other than a judicial action seeking injunctive relief, if the Permittee has complied with the reporting requirements of A.A.C. R18-2-310.01 and has demonstrated all of the following:
 - (1) The excess emissions could not have been prevented through careful and prudent planning and design;

- (2) If the excess emissions were the result of a bypass of control equipment, the bypass was unavoidable to prevent loss of life, personal injury, or severe damage to air pollution control equipment, production equipment, or other property;
 - (3) The air pollution control equipment, process equipment, or processes were at all times maintained and operated in a manner consistent with good practice for minimizing emissions;
 - (4) The amount and duration of the excess emissions (including any bypass operation) were minimized to the maximum extent practicable during periods of such emissions;
 - (5) All reasonable steps were taken to minimize the impact of the excess emissions on ambient air quality;
 - (6) During the period of excess emissions there were no exceedances of the relevant ambient air quality standards established in Title 18, Chapter 2, Article 2 of the Arizona Administrative Code that could be attributed to the emitting source;
 - (7) All emissions monitoring systems were kept in operation if at all practicable; and
 - (8) Contemporaneous records documented the Permittee's actions in response to the excess emissions.
- b. If excess emissions occur due to a malfunction during routine startup and shutdown, then those instances shall be treated as other malfunctions subject to Condition XII.E.2 above.
4. Affirmative Defense for Malfunctions during Scheduled Maintenance
- If excess emissions occur due to a malfunction during scheduled maintenance, then those instances will be treated as other malfunctions subject to Condition XII.E.2 above.
5. Demonstration of Reasonable and Practicable Measures

For an affirmative defense under Condition XII.E.2 or XII.E.3 above, the Permittee shall demonstrate, through submission of the data and information required by Condition XII.E and A.A.C. R18-2-310.01, that all reasonable and practicable measures within the Permittee's control were implemented to prevent the occurrence of the excess emissions.

XIII. RECORD KEEPING REQUIREMENTS

[A.A.C. R18-2-306.A.4]

- A. The Permittee shall keep records of all required monitoring information including, but not limited to, the following:
1. The date, place as defined in the permit, and time of sampling or measurements;
 2. The date(s) analyses were performed;
 3. The name of the company or entity that performed the analyses;
 4. A description of the analytical techniques or methods used;
 5. The results of such analyses; and
 6. The operating conditions as existing at the time of sampling or measurement.
- B. The Permittee shall retain records of all required monitoring data and support information for a period of at least 5 years from the date of the monitoring sample, measurement, report, or application. Support information includes all calibration and maintenance records and all original strip-chart recordings or other data recordings for continuous monitoring instrumentation, and

copies of all reports required by the permit.

- C. All required records shall be maintained either in an unchangeable electronic format or in a handwritten logbook utilizing indelible ink.

XIV. REPORTING REQUIREMENTS

[A.A.C. R18-2-306.A.5.a]

The Permittee shall submit the following reports:

- A. Compliance certifications in accordance with Section VII of Attachment “A”.
- B. Excess emission; permit deviation, and emergency reports in accordance with Section XII of Attachment “A”.
- C. Other reports required by any condition of Attachment “B”.

XV. DUTY TO PROVIDE INFORMATION

[A.A.C. R18-2-304.G and -306.A.8.e]

- A. The Permittee shall furnish to the Director, within a reasonable time, any information that the Director may request in writing to determine whether cause exists for revising, revoking and reissuing, or terminating the permit, or to determine compliance with the permit. Upon request, the Permittee shall also furnish to the Director copies of records required to be kept by the permit. For information claimed to be confidential, the Permittee shall furnish an additional copy of such records directly to the Administrator along with a claim of confidentiality.
- B. If the Permittee has failed to submit any relevant facts or has submitted incorrect information in the permit application, the Permittee shall, upon becoming aware of such failure or incorrect submittal, promptly submit such supplementary facts or corrected information.

XVI. PERMIT AMENDMENT OR REVISION

[A.A.C. R18-2-318, -319, and -320]

The Permittee shall apply for a permit amendment or revision for changes to the facility which does not qualify for a facility change without revision under Section XVII, as follows:

- A. Administrative Permit Amendment (A.A.C. R18-2-318);
- B. Minor Permit Revision (A.A.C. R18-2-319); and
- C. Significant Permit Revision (A.A.C. R18-2-320)

The applicability and requirements for such action are defined in the above referenced regulations.

XVII. FACILITY CHANGE WITHOUT A PERMIT REVISION

[A.A.C. R18-2-306.A.4 and -317]

- A. The Permittee may make changes at the permitted source without a permit revision if all of the following apply:
 - 1. The changes are not modifications under any provision of Title I of the Act or under ARS §49-401.01(19);
 - 2. The changes do not exceed the emissions allowable under the permit whether expressed therein as a rate of emissions or in terms of total emissions;
 - 3. The changes do not violate any applicable requirements or trigger any additional applicable

requirements;

4. The changes satisfy all requirements for a minor permit revision under A.A.C. R18-2-319.A; and
 5. The changes do not contravene federally enforceable permit terms and conditions that are monitoring (including test methods), record keeping, reporting, or compliance certification requirements.
- B. The substitution of an item of process or pollution control equipment for an identical or substantially similar item of process or pollution control equipment shall qualify as a change that does not require a permit revision, if it meets all of the requirements of Conditions XVII.A and XVII.C of this Attachment.
- C. For each change under Conditions XVII.A and XVII.B above, a written notice by certified mail or hand delivery shall be received by the Director and the Administrator a minimum of 7 working days in advance of the change. Notifications of changes associated with emergency conditions, such as malfunctions necessitating the replacement of equipment, may be provided less than 7 working days in advance of the change, but must be provided as far in advance of the change as possible or, if advance notification is not practicable, as soon after the change as possible.
- D. Each notification shall include:
1. When the proposed change will occur;
 2. A description of the change;
 3. Any change in emissions of regulated air pollutants; and
 4. Any permit term or condition that is no longer applicable as a result of the change.
- E. The permit shield described in A.A.C. R18-2-325 shall not apply to any change made under this Section, other than implementation of an alternate to Conditions XVII.A and XVII.B above.
- F. Except as otherwise provided for in the permit, making a change from one alternative operating scenario to another as provided under A.A.C. R18-2-306.A.11 shall not require any prior notice under this Section.
- G. Notwithstanding any other part of this Section, the Director may require a permit to be revised for any change that, when considered together with any other changes submitted by the same source under this Section over the term of the permit, do not satisfy Condition XVII.A above.

XVIII. TESTING REQUIREMENTS

[A.A.C. R18-2-312]

- A. The Permittee shall conduct performance tests as specified in the permit and at such other times as may be required by the Director.
- B. Operational Conditions during Testing
- Tests shall be conducted during operation at the maximum possible capacity of each unit under representative operational conditions unless other conditions are required by the applicable test method or in this permit. With prior written approval from the Director, testing may be performed at a lower rate. Operations during periods of start-up, shutdown, and malfunction (as defined in A.A.C. R18-2-101) shall not constitute representative operational conditions unless otherwise specified in the applicable standard.

- C. Tests shall be conducted and data reduced in accordance with the test methods and procedures contained in the Arizona Testing Manual unless modified by the Director pursuant to A.A.C. R18-2-312.B.

D. Test Plan

At least 14 calendar days prior to performing a test, the Permittee shall submit a test plan to the Director in accordance with A.A.C. R18-2-312.B and the Arizona Testing Manual. This test plan must include the following:

1. Test duration;
2. Test location(s);
3. Test method(s); and
4. Source operation and other parameters that may affect test results.

E. Stack Sampling Facilities

The Permittee shall provide, or cause to be provided, performance testing facilities as follows:

1. Sampling ports adequate for test methods applicable to the facility;
2. Safe sampling platform(s);
3. Safe access to sampling platform(s); and
4. Utilities for sampling and testing equipment.

F. Interpretation of Final Results

Each performance test shall consist of three separate runs using the applicable test method. Each run shall be conducted for the time and under the conditions specified in the applicable standard. For the purpose of determining compliance with an applicable standard, the arithmetic mean of the results of the three runs shall apply. In the event that a sample is accidentally lost or conditions occur in which one of the three runs is required to be discontinued because of forced shutdown, failure of an irreplaceable portion of the sample train, extreme meteorological conditions, or other circumstances beyond the Permittee's control, compliance may, upon the Director's approval, be determined using the arithmetic mean of the results of the other two runs. If the Director or the Director's designee is present, tests may only be stopped with the Director's or such designee's approval. If the Director or the Director's designee is not present, tests may only be stopped for good cause. Good cause includes: forced shutdown, failure of an irreplaceable portion of the sample train, extreme meteorological conditions, or other circumstances beyond the Permittee's control. Termination of any test without good cause after the first run is commenced shall constitute a failure of the test. Supporting documentation, which demonstrates good cause, must be submitted.

G. Report of Final Test Results

A written report of the results of all performance tests shall be submitted to the Director within 30 days after the test is performed. The report shall be submitted in accordance with the Arizona Testing Manual and A.A.C. R18-2-312.A.

XIX. PROPERTY RIGHTS

[A.A.C. R18-2-306.A.8.d]

This permit does not convey any property rights of any sort, or any exclusive privilege.

XX. SEVERABILITY CLAUSE

[A.A.C. R18-2-306.A.7]

The provisions of this permit are severable. In the event of a challenge to any portion of this permit, or if any portion of this permit is held invalid, the remaining permit conditions remain valid and in force.

XXI. PERMIT SHIELD

[A.A.C. R18-2-325]

Compliance with the conditions of this permit shall be deemed compliance with all applicable requirements identified in the portions of this permit subtitled "Permit Shield". The permit shield shall not apply to minor revisions pursuant to Condition XVI.B of this Attachment and any facility changes without a permit revision pursuant to Section XVII of this Attachment.

XXII. PROTECTION OF STRATOSPHERIC OZONE

[40 CFR Part 82]

If this source becomes subject to the provisions of 40 CFR Part 82, then the Permittee shall comply with these provisions accordingly.

ATTACHMENT “B”: SPECIFIC CONDITIONS

Air Quality Control Permit No. 35426 For Phoenix Cement Company

I. GENERAL REQUIREMENTS

- A. At the time the compliance certifications required by Section VII of Attachment "A" of this Permit are submitted, the Permittee shall submit reports of all monitoring activities required by this Attachment performed in the same six month period as applies to the compliance certification period. All instances of deviations from permit requirements shall be clearly identified in such reports. All required reports shall be certified by a responsible official consistent with Section VIII, Attachment “A” of this Permit. [A.A.C. R18-2-306.A.5.a]
- B. The conditions of this Attachment shall apply to equipment identified in Attachment “C” of this Permit. In the event that after the date of permit issuance, the Permittee identifies equipment existing at the plant at the time of permit issuance, but not included in the permit application for this permit, or if the Permittee identifies errors in Attachment “C” of this Permit, the Permittee shall follow the appropriate administrative procedures as set forth in Article 3 of Title 18, Chapter 2 of the Arizona Administrative Code to include such equipment in the permit or to correct such errors. [A.A.C. R18-2-304.G]
- C. The Permittee shall have on site or on call a person that is certified in EPA Reference Method 9. [A.A.C. R18-2-306.A.3.c]
- D. The Permittee shall not emit gaseous or odorous materials from equipment, operations or premises under his control in such quantities or concentrations as to cause air pollution. [A.A.C. R18-2-730.D]
- E. Where a stack, vent or other outlet at the Permittee’s premises, which is not otherwise subject to the Existing Stationary Source Performance Standards, the New Source Performance Standards, or the National Emission Standards for Hazardous Air Pollutants of Title 18, Chapter 2 of the Arizona Administrative Code, is at such a level that fumes, gas mist, odor, smoke, vapor or any combination thereof constituting air pollution is discharged to adjoining property, the Director may require the installation of abatement equipment or the alteration of such stack, vent, or other outlet by the Permittee thereof to a degree that will adequately dilute, reduce or eliminate the discharge of air pollution to adjoining property. [A.A.C. R18-2-730.G]
- F. The Permittee shall not cause, allow or permit discharge from any stationary source carbon monoxide emissions without the use of complete secondary combustion of waste gases generated by any process source. [A.A.C. R18-2-730.I]
- G. Nothing in this Attachment shall be so construed as to prevent the utilization of measurements from emissions monitoring devices or techniques not designated as performance tests as evidence of compliance with applicable good maintenance and operating requirements. [A.A.C. R18-2-312.I]
- H. The permit conditions or portions of the permit conditions which are material pursuant to A.A.C. R18-2-331 and A.R.S. §49-464 are indicated by double underlined and italicized print.

II. FACILITY-WIDE OPERATIONS GOVERNED BY VOLUNTARILY ACCEPTED PROVISIONS

[A.A.C. R18-2-306.01]

A. Applicability

The conditions of this Section apply to the pollutant-emitting activities facility wide that include Portland cement operations, quarry operations, coal preparation operations, cooling towers, and all other unclassified point sources and non-point sources that are contiguous or adjacent to the facility's main operation and under common control of the Permittee.

B. Emission Limits/Standards

[A.A.C. R18-2-306.01 and -331.A.3.a]

1. Facility-Wide Emission Caps

The Permittee shall not cause to be discharged into the atmosphere from facility-wide operations, air emissions in rolling 12-month total in excess of the following:

- a. 773 tons per year of particulate matter (PM);
- b. 460 tons per year of PM with an aerodynamic diameter less than 10 microns (PM₁₀);
- c. 401 tons per year of sulfur dioxide (SO₂);
- d. 3,271 tons per year of nitrogen oxides (NO_x);
- e. 764 tons per year of carbon monoxide (CO); and
- f. 41.5 tons per year of volatile organic compounds (VOC).

2. Kiln 4/In-Line Raw Mill and Coal Mill Emission Limits

- a. The Permittee shall not cause to be discharged into the atmosphere from the Kiln 4/In-Line Raw Mill and Coal Mill operation, air emissions in rolling 12-month total in excess of the following:
 - (1) 400 tons SO₂ per year;
 - (2) 3,240 tons NO_x per year; and
 - (3) 698 tons CO per year.
- b. The Permittee shall not cause to be discharged into the atmosphere from the Kiln 4/In-Line Raw Mill and Coal Mill operation, any gases which contain CO in excess of 2.0 pounds per ton of clinker in rolling 8-hour average.

3. Operation Limitations

- a. The Permittee shall not discharge quarry explosives in excess of the following:
 - (1) 913 tons per year in rolling 12-month total;
 - (2) 70 tons per calendar day; and
 - (3) 10 tons per hour.
- b. The Permittee shall not cause to stack clinker in the open except when performing specialty grinding in the warmer months of any given year, during which time, the Permittee may maintain temporary outdoor storage of no more than 2,000 tons of clinker.
- c. The Permittee shall operate and maintain all equipment at the facility in accordance with the manufacturer's specifications.
- d. Fuel Usage
 - (1) The Permittee shall only burn the following fuels at the facility:

Fuel Type	Maximum Fuel Proportion (% Heat Input)
Coal	100
Pet-Coke	100
#2 Fuel Oil	100
Natural Gas	100

- (2) Maximum fuel proportion is defined as the maximum percent of actual heat input provided by a fuel component in a fuel mixture.

C. Air Pollution Control Requirements

[A.A.C. R18-2-306.01 and -331.A.3.e]

1. Except as provided in Condition II.B.3.b above, the Permittee shall at all times, store clinker in the two clinker storage domes (DO-200 and DO-201) and the clinker bin (B-404) for minimizing particulate emissions from clinker handling and storage activity.
2. At all times, including periods of startup, shutdown, and malfunction, the Permittee shall operate and maintain the production activities facility-wide, including any associated air pollution control equipment and monitoring equipment, in a manner consistent with good air pollution control practices for minimizing emissions to the levels required by Conditions II.B.1 and 2 above.
3. The good air pollution control practices include, but are not limited to, implementation of the following by the Permittee to ensure good combustion practice:
 - a. Manufacturer's specified operating procedures;
 - b. Startup, shutdown and malfunction plan required by Section III of this Attachment;
 - c. Operation and Maintenance Plan included in Attachment "E" of this Permit.
4. Determination of whether acceptable operation and maintenance procedures are being used for minimizing emissions will be based on information available to the Director which may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source.

D. Monitoring and Performance Testing Requirements

[A.A.C. R18-2-306.A.3 and 331.A.3.c]

1. Within 180 days following issuance of the Permit, the Permittee shall install, calibrate, maintain and operate continuous emission monitoring systems (CEMS) at Kiln 4/In-Line Raw Mill stack (S-401) and at Coal Mill stack (S-453), for measuring CO, NO_x and SO₂ concentrations of the exhaust gases passing each stack. All continuous emissions monitoring systems shall meet the following:
 - a. The Permittee shall follow the monitoring procedures and performance specifications as required by Subpart A and Appendix B of 40 CFR Part 60.
 - b. The Permittee shall maintain 95 percent data recovery on all the data obtained from the CEMS. Compliance with this data recovery requirement shall be determined based on total Kiln 4 operating time during a 365 day period.
 - c. The CEMS shall be designed so that one cycle of operation is complete for each successive 15-minute period.
 - d. All data gaps shall be filled with the average hourly concentration recorded by the CEMS for the hour immediately before and the hour immediately after the missing data period.
 - e. Instrument span shall be such that the expected output is 50 to 70 percent of span.

- f. The Permittee shall develop and submit to the Director within 30 days of the issuance of the Permit, a Quality Assurance/Quality Control (QA/QC) plan. The QA/QC plan shall be at least as stringent as required by Appendix F of 40 CFR Part 60 and shall include a quarterly CEMS auditing scheme that requires a relative accuracy test audit (RATA) at least once every four calendar quarters, rotated by cylinder gas audits (CGA) or relative accuracy audits (RAA) in other three of the four calendar quarters. The CGA or RAA shall be conducted no more than three quarters in succession. The Permittee shall implement the QA/QC plan upon its approval by the Director. The Permittee shall notify the Director 14 days prior to performing RATA or CGA.
2. Within 180 days following issuance of the Permit, the Permittee shall install, calibrate, maintain and operate flow monitors at K4/In-Line Raw Mill stack (S-401) and at Coal Mill stack (S-453), for measuring volumetric flow rates of the exhaust gases passing each stack. All flow monitors shall meet the following:
 - a. The Permittee shall follow the monitoring procedures and performance specifications as required by Subpart A and Appendix B of 40 CFR Part 60.
 - b. The Permittee shall maintain 95 percent data recovery on all the data obtained from the flow monitors. Compliance with this data recovery requirement shall be determined based on total Kiln 4 operating time during a 365 day period.
 - c. All data gaps shall be filled with the average hourly flow rate recorded by the flow monitor for the hour immediately before and the hour immediately after the missing data period.
 3. Within 180 days following issuance of the Permit, the Permittee shall install, calibrate, maintain and operate a permanent weigh scale system to measure and record weight rates in tons-mass per hour of the amount of clinker produced by Kiln 4. The scale system shall be maintained within $\pm 5\%$ accuracy. A process weigh scale may be substituted for this purpose, provided it meets the accuracy test.
 4. The Permittee shall conduct performance tests to determine PM and PM₁₀ emissions as follows: [A.A.C. R18-2-306.A.3.c and 312]
 - a. The performance tests shall be conducted at and samples be withdrawn from the following locations and in accordance with the following frequencies:

Test Location	Test Frequency
In-Line Raw Mill Stack S-401	Annually
Clinker Cooler Stack S-402	Annually
Coal Mill Stack S-453	Annually
OK Mill Stack S-350	Annually
DC301 Vent	Once every two years
DC302 Vent	Once every two years
DC303 Vent	Once every two years
 - b. The following USEPA Reference Methods shall be used for the performance tests:
 - (1) For PM, Methods 1-5 with Method 202 for back half; and
 - (2) For PM₁₀, Methods 1-5 or Method 201/201A with Method 202 for back half.
 - c. All performance tests shall follow the procedures of Section XVIII of Attachment "A".

E. Compliance Determination

[A.A.C. R18-2-306.A.3 and 306.01.A]

1. The Permittee shall have available the following hourly average data for each stack/vent, based on measurements performed by the CEMS and flow monitors:
 - a. Pounds per hour SO₂
 - b. Pounds per hour NO_x
 - c. Pounds per hour CO
2. The Permittee shall have available the following hourly data from production activities, based on measurements performed by weigh scale system or other equivalent methods:
 - a. Tons per hour of clinker produced
 - b. Tons per hour of quarry explosives discharged
3. The Permittee shall calculate and record at the end of each hour, rolling 8-hour average of CO emissions total in pounds per ton of clinker (lb/ton) from In-Line Raw Mill stack S-401 and Coal Mill stack S-453, using the hourly data from Conditions II.E.1 and 2 above;
4. The Permittee shall calculate and record at the end of each calendar day, tons of quarry explosives discharged during that day.
5. The Permittee shall perform the following on the last day of each calendar month:
 - a. Calculate and record for SO₂, NO_x and CO separately, the monthly emissions total in tons from In-Line Raw Mill stack S-401 and Coal Mill stack S-453, using the hourly data from Condition II.E.1 above.
 - b. Renew and record for SO₂, NO_x and CO separately, the rolling 12-month emissions total in tons from In-Line Raw Mill stack S-401 and Coal Mill stack S-453, using the monthly emission data for the immediate past 12 consecutive months.
 - c. Renew and record for PM, PM₁₀, SO₂, NO_x, CO and VOC separately, the rolling 12-month emissions total in tons from facility-wide operations. The emissions evaluation shall be conducted using monthly emission data for the immediate past 12 consecutive months that may include, but is not limited to, the most recent stack testing results, rolling 12-month emission totals of individual sources, vendor provided emission data, and/or the current AP-42 factors published by USEPA. Preference of data to be used for the evaluation shall follow the following order:
 - (1) CEMS (the most preferred);
 - (2) Parametric source tests;
 - (3) Single source tests;
 - (4) Material balance;
 - (5) Source category emissions model;
 - (6) State/industry factors; and
 - (7) AP-42 emission factors (the least preferred).
 - d. Calculate and record in tons, the quarry explosives usage for that month and the rolling 12-month total.
6. The Permittee shall determine compliance with the rolling 8-hour CO limit set forth in Condition II.B.2.b by comparing Condition II.E.3 CO calculation results to this limit.
7. The Permittee shall determine compliance with the rolling 12-month total emission limits set

forth for each pollutant in Conditions II.B.1 and 2 by comparing Condition II.E.5 results to the limits corresponding to that pollutant.

8. The Permittee shall determine compliance with the quarry explosives limits set forth in Condition II.B.3.a by comparing Conditions II.E.2, 4 and 5 explosives usage results to the limits.

F. Recordkeeping and Reporting Requirements

[A.A.C. R18-2-306.A.4 and 305.A.5]

1. The Permittee shall report to the Director consistent with Section XII.A, Attachment "A" of the Permit, any emissions in excess of the limits established under Conditions II.B.1 and 2 of this Attachment.
2. The Permittee shall report to the Director consistent with Section XII.B, Attachment "A" of the Permit, any incidence that exhibits deviation from the operation limitations established under Condition II.B.3 of this Attachment.
3. The Permittee shall submit a semiannual report along with the compliance certification to include the following information for the past six (6) months period:
 - a. Rolling 8-hour averages of CO emissions total in pounds per ton of clinker (lb/ton) from In-Line Raw Mill stack S-401 and Coal Mill stack S-453 calculated at each hour. This item may be submitted in an electronic format.
 - b. For SO₂, NO_x and CO separately, the monthly emissions totals from In-Line Raw Mill stack S-401 and Coal Mill stack S-453 tallied at each month.
 - c. For SO₂, NO_x and CO separately, the rolling 12-month emissions totals from In-Line Raw Mill stack S-401 and Coal Mill stack S-453 for each month.
 - d. For PM, PM₁₀, SO₂, NO_x, CO and VOC separately, the rolling 12-month emissions totals from facility-wide operations for each month.
 - e. Summary of all incidences of exceedance or deviation occurred during the past six (6) months to include:
 - (1) Magnitude of each exceedance or deviation recorded;
 - (2) Any conversion factor(s) used in calculation;
 - (3) Date and time of commencement and completion of each exceedance or deviation due to:
 - (a) Startup/shutdown
 - (b) Control equipment problems
 - (c) Process problems
 - (d) Other known causes, or
 - (e) Unknown causes
 - (4) Nature and cause of any malfunction, if known;
 - (5) Corrective action taken or preventative measures adopted;
 - (6) Total duration of exceedance or deviations during the reporting period;
 - (7) Total source operating time during the reporting period; and
 - (8) (Total duration of exceedance or deviations) * 100 / (Total source operating time).
 - f. A monitoring systems performance report for each continuous emission monitoring system (CEMS) that includes:

- (1) Each CEMS downtime in the reporting period due to:
 - (a) Monitor equipment malfunction
 - (b) Non-Monitor equipment malfunction
 - (c) Quality assurance calibration
 - (d) Other known causes, or
 - (e) Unknown causes
 - (2) Nature of the system repairs or adjustments;
 - (3) Total CEMS downtime; and
 - (4) $(\text{Total CEMS downtime}) * 100 / (\text{Total source operating time})$.
4. The Permittee shall maintain a file of all measurements including performance testing, continuous monitoring system performance evaluations, all continuous monitoring system or monitoring device calibration checks, and adjustments and maintenance performed on the systems or devices. This data shall be recorded in a permanent form suitable for inspection.
5. The Permittee shall maintain the following:
 - a. Hourly records of rolling 8-hour average of CO emissions total in pounds per ton of clinker (lb/ton) from In-Line Raw Mill stack S-401 and Coal Mill stack S-453.
 - b. For SO₂, NO_x and CO separately, monthly records of monthly emissions total in tons from In-Line Raw Mill stack S-401 and Coal Mill stack S-453.
 - c. For SO₂, NO_x and CO separately, monthly records of rolling 12-month emissions total in tons from In-Line Raw Mill stack S-401 and Coal Mill stack S-453.
 - d. For PM, PM₁₀, SO₂, NO_x, CO and VOC separately, monthly records of rolling 12-month emissions total in tons from facility-wide operations.
 - e. Records of hourly, daily and rolling 12-month total quarry explosives usage.
 - f. Daily records of the type and amount of each fuel component utilized in Kiln 4.
 - g. Records of the manufacturer's specifications for all equipment on-site.
6. All records, analyses, and reports shall be retained for a minimum of five years from the date of generation. The most recent two years of data shall be kept on-site.

III. PORTLAND CEMENT OPERATIONS GOVERNED BY MAXIMUM AVAILABLE CONTROL TECHNOLOGY (MACT) STANDARDS

A. Applicability

The affected sources subject to this Section are:

1. The in-line kiln/raw mill system that includes Kiln 4 (K-404), Pre-heater PH-404 through 408 and CAL-404, In-Line Raw Mill RM-306, and Coal Mill RM-450;
2. Clinker Cooler CC-404;
3. Raw Mill BM-301 and Swing Mill BM-302 when used for raw feed grinding;
4. Finish Mills BM-303 and 304, OK Mill BM-305, and Swing Mill BM-302 when used for clinker grinding;
5. Raw material dryers BM-301 and BM-302 when used for raw feed grinding;

6. Each raw material, clinker, or finished product storage bin;
7. Each conveying system transfer point including those associated with coal preparation used to convey coal from the mill to the kiln; and
8. Each bagging and bulk loading and unloading system.

B. Emission Limits/Standards

1. Standards for the Kiln 4/In-Line Raw Mill and Coal Mill

- a. The Permittee shall not cause to be discharged into the atmosphere from the Kiln 4/In-Line Raw Mill and Coal Mill, any gases which: [40 CFR 63.1343(b)]
 - (1) Contain particulate matter (PM), In-Line Raw Mill RM-306 and Coal Mill RM-450 combined, in excess of 0.15 kg per Mg (0.30 lb per ton) of feed (dry basis) to the kiln.
 - (2) Exhibit opacity greater than 20 percent.
 - (3) Contain dioxins/furans (D/F) in excess of:
 - (a) 0.20 ng per dscm (8.7×10^{-11} gr per dscf) (toxicity equivalents (TEQ)) corrected to seven percent oxygen; or
 - (b) 0.40 ng per dscm (1.7×10^{-10} gr per dscf) (TEQ) corrected to seven percent oxygen, when the average of the performance test run average temperatures at the inlet to the PM control device DC-431 is 204 °C (400 °F) or less.
- b. The Permittee shall operate the Kiln 4/In-Line Raw Mill and Coal Mill system, such that: [40 CFR 63.1344(a)(1), 63.1344 (a)(2), 63.1344(b), and A.A.C. R18-2-331.A.3.b]
 - (1) When In-Line Raw Mill RM-306 is operating, the flue temperature at the inlet to DC-431 does not exceed the applicable exhaust temperature limit specified in Condition III.E.1.c(5) of this Attachment and established during the performance test when the raw mill was operating; and
 - (2) When In-Line Raw Mill RM-306 is not operating, the flue temperature at the inlet to DC-431 does not exceed the applicable exhaust temperature limit specified in Condition III.E.1.c(5) of this Attachment and established during the performance test when the raw mill was not operating.

2. Standards for Clinker Coolers

[40 CFR 63.1345(a)]

The Permittee shall not cause to be discharged into the atmosphere from the clinker cooler any gases which:

- a. Contain particulate matter in excess of 0.050 kg per Mg (0.10 lb per ton) of feed (dry basis) to the kiln.
- b. Exhibit opacity greater than 10 percent

3. Standards for Raw Material Dryers

[40 CFR 63.1346(a)]

The Permittee shall not cause to be discharged into the atmosphere from the raw material dryer any gases which exhibit opacity greater than 10 percent.

4. Standards for Raw and Finish Mills

[40 CFR 63.1347]

The Permittee shall not cause to be discharged from the mill sweep or air separator air pollution control devices any gases which exhibit opacity in excess of 10 percent.

5. Standards for Material Handling Points

[40 CFR 63.1348]

The Permittee shall not cause to be discharged from any raw material, clinker, or finished product storage bin, conveying system transfer point, bagging system, and bulk loading or unloading system any gases which exhibit opacity in excess of 10 percent.

C. Operation and Maintenance Requirements

1. Operation and maintenance requirements established in this subsection pursuant to Section 112 of the Act are enforceable independent of emissions limitations or other requirements in relevant standards. [40 CFR 63.6(e)(1)(iii)]
2. The Permittee shall continue to implement and comply with the Operations and Maintenance (O&M) Plan prescribed in Attachment "E" of this Permit. Failure to comply with any provision of the plan shall be a violation of this Permit. Any revisions to the plan shall be submitted to the Director for review and approval as part of the permit revision application described in Section XVI, Attachment "A" of this Permit and shall include the information required in 40 CFR 63.1350(a). [40 CFR 63.1350(a) and (b)]
3. At all times, including periods of startup, shutdown, and malfunction, the Permittee shall operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. During a period of startup, shutdown, or malfunction, this general duty to minimize emissions requires that the Permittee reduce emissions from the affected source to the greatest extent which is consistent with safety and good air pollution control practices. The general duty to minimize emissions during a period of startup, shutdown, or malfunction does not require the Permittee to achieve emission levels that would be required by the applicable standard at other times if this is not consistent with safety and good air pollution control practices, nor does it require the Permittee to make any further efforts to reduce emissions if levels required by the applicable standard have been achieved. Determination of whether such operation and maintenance procedures are being used will be based on information available to the Director which may include, but is not limited to, monitoring results, review of operation and maintenance procedures (including the startup, shutdown, and malfunction plan required in Condition III.C.5 below), review of operation and maintenance records, and inspection of the source. [40 CFR 63.6(e)(1)(i) and A.A.C. R18-2-331.A.3.e]
4. The Permittee shall correct malfunctions as soon as practicable after their occurrence in accordance with the startup, shutdown, and malfunction plan required in Condition III.C.5 below. To the extent that an unexpected event arises during a startup, shutdown, or malfunction, the Permittee shall comply by minimizing emissions during such a startup, shutdown, and malfunction event consistent with safety and good air pollution control practices. [40 CFR 63.6(e)(1)(ii)]
5. Startup, Shutdown, and Malfunction Plan [40 CFR 63.6(e)(3)]
 - a. The Permittee shall have developed and continue to implement a written startup, shutdown, and malfunction plan that describes, in detail, procedures for operating and maintaining the source during periods of startup, shutdown, and malfunction, and a program of corrective action for malfunctioning process and air pollution control and monitoring equipment used to comply with this Section. The purpose of the startup, shutdown, and malfunction plan is to
 - (1) Ensure that, at all times, the Permittee operates and maintains each affected source, including associated air pollution control and monitoring equipment, in a manner which satisfies the general duty to minimize emissions established by Condition III.C.2 above;
 - (2) Ensure that the Permittee is prepared to correct malfunctions as soon as practicable

after their occurrence in order to minimize excess emissions of hazardous air pollutants; and

- (3) Reduce the reporting burden associated with periods of startup, shutdown, and malfunction (including corrective action taken to restore malfunctioning process and air pollution control equipment to its normal or usual manner of operation).
- b. During periods of startup, shutdown, and malfunction, the Permittee of an affected source must operate and maintain such source (including associated air pollution control and monitoring equipment) in accordance with the procedures specified in the startup, shutdown, and malfunction plan developed under Condition III.C.5.a above.
 - c. The Permittee shall maintain at the affected source a current startup, shutdown, and malfunction plan and shall make the plan available upon request for inspection and copying by the Director. In addition, if the startup, shutdown, and malfunction plan is subsequently revised as provided in Condition III.C.5.d below, the Permittee shall maintain at the affected source each previous (i.e., superseded) version of the startup, shutdown, and malfunction plan, and shall make each such previous version available for inspection and copying by the Director for a period of 5 years after revision of the plan. The Director may at any time request in writing that the Permittee submit a copy of any startup, shutdown, and malfunction plan (or a portion thereof) which is maintained at the affected source or in the possession of the Permittee. Upon receipt of such a request, the Permittee must promptly submit a copy of the requested plan (or a portion thereof) to the Director. The Director shall request that the Permittee submit a particular startup, shutdown, or malfunction plan (or a portion thereof) whenever a member of the public submits a specific and reasonable request to examine or to receive a copy of that plan or portion of a plan. The Permittee may elect to submit the required copy of any startup, shutdown, and malfunction plan to the Director in an electronic format. If the Permittee claims that any portion of such a startup, shutdown, and malfunction plan is confidential business information entitled to protection from disclosure under Section 114(c) of the Act or 40 CFR 2.301, the material which is claimed as confidential shall be clearly designated in the submission.
 - d. Based on the results of a determination made under Condition III.C.3 above, the Director may require that the Permittee make changes to the startup, shutdown, and malfunction plan for that source. The Director shall require appropriate revisions to a startup, shutdown, and malfunction plan, if the Director finds that the plan:
 - (1) Does not address a startup, shutdown, or malfunction event that has occurred;
 - (2) Fails to provide for the operation of the source (including associated air pollution control and monitoring equipment) during a startup, shutdown, or malfunction event in a manner consistent with the general duty to minimize emissions established by Condition III.C.3 above;
 - (3) Does not provide adequate procedures for correcting malfunctioning process and/or air pollution control and monitoring equipment as quickly as practicable; or
 - (4) Includes an event that does not meet the definition of startup, shutdown, or malfunction listed in 40 CFR 63.2.
 - e. The Permittee may periodically revise the startup, shutdown, and malfunction plan for the affected source as necessary to satisfy the requirements of this Section or to reflect changes in equipment or procedures at the affected source. Unless the Director provides otherwise, the Permittee may make such revisions to the startup, shutdown, and malfunction plan without prior approval by the Director. However, each such revision to a startup, shutdown, and malfunction plan shall be reported in the semiannual report required by Condition III.G.2.d below. If the startup, shutdown, and malfunction plan

fails to address or inadequately addresses an event that meets the characteristics of a malfunction but was not included in the startup, shutdown, and malfunction plan at the time the Permittee developed the plan, the Permittee shall revise the startup, shutdown, and malfunction plan within 45 days after the event to include detailed procedures for operating and maintaining the source during similar malfunction events and a program of corrective action for similar malfunctions of process or air pollution control and monitoring equipment. In the event that the Permittee makes any revision to the startup, shutdown, and malfunction plan which alters the scope of the activities at the source which are deemed to be a startup, shutdown, or malfunction, or otherwise modifies the applicability of any emission limit, work practice requirement, or other requirement in a standard established under this part, the revised plan shall not take effect until after the Permittee has provided a written notice describing the revision to the permitting authority.

- f. The Permittee shall operate and maintain the facility in accordance with the procedures specified in the current startup, shutdown, and malfunction plan. However, any revisions made to the startup, shutdown, and malfunction plan in accordance with the procedures established by the Section shall not be deemed to constitute permit revisions. Moreover, none of the procedures specified by the startup, shutdown, and malfunction plan for an affected source shall be deemed to fall within the permit shield provision in Section 504(f) of the Act.

D. Monitoring Requirements

1. The Permittee shall monitor the opacity at each point where emissions are vented from Kiln 4/ In-Line Raw Mill and Coal Mill in accordance with the following conditions:
 - a. The Permittee shall install, calibrate, maintain and continuously operate a continuous opacity monitor (COM) located at the following to continuously monitor the opacity.
 - (1) Downstream of the In-Line Raw Mill PM control device DC-431, and
 - (2) Downstream of the Coal Mill PM control device DC-453.

The COM shall be installed, maintained, calibrated, and operated as required by Subpart A of 40 CFR Part 63 and according to PS-1 of Appendix B of 40 CFR Part 60.
[40 CFR 63.1350(c)(1) and A.A.C. R18-2-331.A.3.c]
 - b. To remain in compliance, the opacity shall be maintained such that the 6-minute average opacity for any 6-minute block period does not exceed 20 percent. If the average opacity for any 6-minute block period exceeds 20 percent, this shall constitute a violation of the standard.
[40 CFR 63.1350(c)(3)]
2. The Permittee shall monitor opacity from the clinker cooler at each point where emissions are vented from the clinker cooler in accordance with the following conditions:
 - a. The Permittee shall install, calibrate, maintain, and continuously operate a COM located at the outlet of the clinker cooler PM control device DC-445 to continuously monitor the opacity. The COM shall be installed, maintained, calibrated, and operated as required by Subpart A of 40 CFR Part 63 and according to PS-1 of Appendix B to 40 CFR Part 60.
[40 CFR 63.1350(d)(1) and A.A.C. R18-2-331.A.3.c]
 - b. To remain in compliance, the opacity shall be maintained such that the 6-minute average opacity for any 6-minute block period does not exceed 10 percent. If the average opacity for any 6-minute block period exceeds 10 percent, this shall constitute a violation of the standard.
[40 CFR 63.1350(d)(3)]
3. The Permittee shall monitor opacity from a raw or finish mill by conducting daily visual emissions observations of the mill sweep and air separator particulate matter control devices

(PMCDs) of the affected sources, as defined in 40 CFR 63.1340(b), in accordance with the procedures of EPA Reference Method 22. The EPA Reference Method 22 test shall be conducted while the affected source is operating at the highest load or capacity level reasonably expected to occur within the day. The duration of the EPA Reference Method 22 test shall be 6 minutes. If visible emissions are observed during any EPA Reference Method 22 visible emissions test, the Permittee must:

[40 CFR 63.1350(e)]

- a. Initiate, within one-hour, the corrective actions specified in the site specific operating and maintenance plan prescribed in Attachment "E" of this Permit.
- b. Within 24 hours of the end of the EPA Reference Method 22 test in which visible emissions were observed, conduct a visual opacity test of each stack from which visible emissions were observed in accordance with EPA Reference Method 9. The duration of the EPA Reference Method 9 test shall be 30 minutes.
- c. The requirements to conduct daily Method 22 testing shall not apply to any specific raw mill or finish mill equipped with a continuous opacity monitor COM or bag leak detection system (BLDS).

[40 CFR 63.1350(m) and A.A.C. R18-2-331.A.3.c]

- (1) The Permittee may choose to install a COM in lieu of conducting the daily visual emissions testing. The COM must be installed at the outlet of the PM control device of the raw mill or finish mill, and must be installed, maintained, calibrated, and operated as required by the general provisions in 40 CFR 63, Subpart A and according to PS-1 of appendix B to 40 CFR Part 60. To remain in compliance, the opacity must be maintained such that the 6-minute average opacity for any 6-minute block period does not exceed 10 percent. If the average opacity for any 6-minute block period exceeds 10 percent, this shall constitute a violation of the standard.
- (2) The Permittee may choose to install a BLDS in lieu of conducting the daily visual emissions testing. The following requirements shall apply to each BLDS:
 - (a) The BLDS must be certified by the manufacturer to be capable of detecting PM emissions at concentrations of 10 milligrams per actual cubic meter (0.0044 grains per actual cubic foot) or less. "Certify" shall mean that the instrument manufacturer has tested the instrument on gas streams having a range of particle size distributions and confirmed by means of valid filterable PM tests that the minimum detectable concentration limit is at or below 10 milligrams per actual cubic meter (0.0044 grains per actual cubic foot) or less;
 - (b) The sensor on the BLDS must provide output of relative PM emissions;
 - (c) The BLDS must have an alarm that will activate automatically when it detects a significant increase in relative PM emissions greater than a preset level;
 - (d) The presence of an alarm condition should be clearly apparent to facility operating personnel;
 - (e) For a positive-pressure fabric filter, each compartment or cell must have a bag leak detector. For a negative-pressure or induced-air fabric filter, the bag leak detector must be installed downstream of the fabric filter. If multiple bag leak detectors are required (for either type of fabric filter), detectors may share the system instrumentation and alarm;
 - (f) All BLDS must be installed, operated, adjusted, and maintained so that they are based on the manufacturer's written specifications and recommendations. The EPA recommends that where appropriate, the standard operating procedures manual for each bag leak detection system include concepts from EPA's "Fabric Filter Bag Leak Detection Guidance" (EPA-454/R-98-015, September 1997);
 - (g) The baseline output of the system must be established as follows:

- i) Adjust the range and the averaging period of the device; and
 - ii) Establish the alarm set points and the alarm delay time.
 - (h) After initial adjustment, the range, averaging period, alarm set points, or alarm delay time may not be adjusted except as specified in the operations and maintenance plan required by Condition III.C.2 above. In no event may the range be increased by more than 100 percent or decreased by more than 50 percent over a 1 calendar year period unless a responsible official as defined in 40 CFR 63.2 certifies in writing to the Director that the fabric filter has been inspected and found to be in good operating condition; and
 - (i) The Permittee must maintain and operate the fabric filter such that the bag leak detector alarm is not activated and alarm condition does not exist for more than 5 percent of the total operating time in a 6-month block period. Each time the alarm activates, alarm time will be counted as the actual amount of time taken by the Permittee to initiate corrective actions. If inspection of the fabric filter demonstrates that no corrective actions are necessary, no alarm time will be counted. The Permittee must continuously record the output from the BLDS during periods of normal operation. Normal operation does not include periods when the BLDS is being maintained or during startup, shutdown or malfunction.
4. The Permittee shall monitor D/F emissions in accordance with the following conditions: [40 CFR 63.1350(f)]
- a. The Permittee shall install, calibrate, maintain, and continuously operate a continuous monitor to record the temperature of the exhaust gases from the Kiln 4/In-Line Raw Mill and Coal Mill system at the inlet to, or upstream of, the in-line raw mill PM control device DC-431. [A.A.C. R18-2-331.A.3.c]
 - (1) The recorder response range must include zero and 1.5 times of the average temperatures established for each of the four different operating scenarios according to the requirements in Condition III.E.1.c(5) below.
 - (2) The reference method must be a National Institute of Standards and Technology calibrated reference thermocouple-potentiometer system or alternate reference, subject to approval by the Director.
 - b. The Permittee shall monitor and continuously record the temperature of the exhaust gases from the Kiln 4/In-Line Raw Mill and Coal Mill at the inlet to the In-Line Raw Mill PM control device DC-431.
 - c. The three-hour rolling average temperature shall be calculated as the average of 180 successive one-minute average temperatures.
 - d. Periods of time when one-minute averages are not available shall be ignored when calculating three-hour rolling averages. When one-minute averages become available, the first one-minute average is added to the previous 179 values to calculate the three-hour rolling average.
 - e. When the operating status of the In-Line Raw Mill is changed from off to on, or from on to off, the calculation of the three-hour rolling average temperature for the corresponding equipment must begin anew, without considering previous recordings.
 - f. The calibration of all thermocouples and other temperature sensors shall be verified at least once every three months.
5. The Permittee shall conduct an inspection of the components of the combustion system of the Kiln 4/In-Line Raw Mill and Coal Mill at least once per year. [40 CFR 63.1350(i)]

6. The Permittee shall monitor opacity in accordance with the Operation and Maintenance Plan enclosed in Attachment "E" of this Permit. [40 CFR 63.1350(j)]
7. The Permittee shall install, calibrate, maintain, and operate a particulate matter continuous emission monitoring system (PM CEMS) to measure the particulate matter discharged to the atmosphere. All requirements relating to installation, calibration, maintenance, operation or performance of the PM CEMS and implementation of the PM CEMS requirement are deferred pending further rulemaking. [40 CFR 63.1350(k) and A.A.C. R18-2-331.A.3.c]
8. All continuous emissions monitoring systems shall meet the following requirements: [A.A.C. R18-2-306.A.3.c]
 - a. Monitoring performance specifications required by Conditions III.D above, 40 CFR 63.8(a)(1), and/or 40 CFR 63.8(b) through 40 CFR 63.8(g).
 - b. The Permittee shall maintain 90 percent data recovery on all the data obtained from the CEMS. Compliance with this data recovery requirement shall be determined based on total Kiln 4 operating time during a 365 day period.
 - c. All data gaps shall be filled with the average hourly concentration recorded by the CEMS for the hour immediately before and the hour immediately after the missing data period.
 - d. Instrument span shall be such that the expected output is 50 to 70 percent (1.5 times the average temperature established according to Condition III.E.1.c(5) below for temperature monitors) of span.

E. Testing Requirements

1. The Permittee shall demonstrate compliance with the emission limits of Conditions III.B.1.a and III.B.2 through III.B.5 of this Attachment by conducting the following test methods and procedures in accordance with the frequency requirements set forth in Conditions III.E.2 and 3 of this Attachment and consistent with the requirements set forth in 40 CFR 63.7 and in Section XVIII, Attachment "A" of this Permit: [40 CFR 63.1349(a) and A.A.C. R18-2-306.A.3.c]
 - a. PM and Visual Emissions Testing Required for Kiln 4/In-Line Raw Mill and Coal Mill and Clinker Cooler
 - (1) For Kiln 4/In-Line Raw Mill and Coal Mill, the Permittee shall demonstrate compliance by conducting separate performance tests as specified in Conditions III.E.1.a.(3) through III.E.1.a.(5) below while both In-Line Raw Mill RM-306 and Coal Mill RM-450 are under normal operating conditions and while In-Line Raw Mill RM-306 is not operating and Coal Mill RM-450 is under normal operating conditions. The performance tests shall be conducted such that the flue samples are to be withdrawn from In-Line Raw Mill stack S-401 and Coal Mill stack S-453 simultaneously. All performance tests shall be conducted and operating parameters set in accordance with a site-specific test plan required to be submitted by the Permittee and approved by the Director prior to the tests. [40 CFR 63.7(c) and 1349(b)(1)]
 - (2) For Clinker Cooler CC-404, the Permittee shall demonstrate compliance by conducting a performance test as specified in Conditions III.E.1.a(3) through III.E.1.a(5) below. The performance test shall be conducted and operating parameters set in accordance with a site-specific test plan required to be submitted by the Permittee and approved by the Director prior to the test. [40 CFR 63.7(c) and 1349(b)(1)]
 - (3) EPA Reference Method 5 shall be used to determine PM emissions. Each performance test shall consist of three separate runs under the conditions that exist when the affected source, as defined in 40 CFR 63.1340(b), is operating at the highest load or capacity level reasonably expected to occur. Each run shall be

conducted for at least one hour, and the minimum sample volume shall be 0.85 dscm (30 dscf). The average of the three runs shall be used to determine compliance. A determination of the PM collected in the impingers (“back half”) of the EPA Reference Method 5 particulate sampling train is not required to demonstrate initial compliance with the PM standards specified in Conditions III.B.1.a(1) and III.B.2.a of this Attachment. However this shall not preclude the permitting authority from requiring a determination of the “back half” for other purposes. [40 CFR 63.1349(b)(1)(i)]

- (4) Suitable methods shall be used to determine the Kiln 4/In-Line Raw Mill and Coal Mill feed rate, except for fuels, for each run. [40 CFR 63.1349(b)(1)(ii)]
- (5) The emission rate, E, of PM shall be computed for each run using the following equations: [40 CFR 63.1349(b)(1)(iii)]

- (a) For Kiln 4/In-Line Raw Mill and Coal Mill

$$E_k = \frac{C_{s-401} Q_{sd-401} + C_{s-453} Q_{sd-453}}{P}$$

where:

E_k = Kiln 4/in-line raw mill and coal mill PM emission rate, kg/Mg of kiln feed

C_{s-401} = In-line raw mill stack PM concentration, kg/dscm

Q_{sd-401} = Volumetric flow rate of effluent gas at in-line raw mill stack, dscm/hr

C_{s-453} = Coal mill stack PM concentration, kg/dscm

Q_{sd-453} = Volumetric flow rate of effluent gas at coal mill stack, dscm/hr

P = Total kiln feed (dry basis), Mg/hr

- (b) For Clinker Cooler CC-404

$$E_c = \frac{C_{s-402} Q_{sd-402}}{P}$$

where:

E_c = Clinker cooler stack PM emission rate, kg/Mg of kiln feed

C_{s-402} = Clinker cooler stack PM concentration, kg/dscm

Q_{sd-402} = Volumetric flow rate of effluent gas at clinker cooler stack, dscm/hr

P = Total kiln feed (dry basis), Mg/hr

- (6) The Permittee shall determine the opacity exhibited at each stack during the period of the EPA Reference Method 5 performance tests required by Condition III.E.1.a.(3) above through the use of a continuous opacity monitor (COM) for that stack. The maximum six-minute average opacity during the three EPA Reference Method 5 test runs shall be determined during each EPA Reference Method 5 test run, and used to demonstrate compliance with the applicable opacity limits of Condition III.B.1.a(2) or III.B.2.b above. [40 CFR 63.1349(b)(1)(v)]

- b. Opacity Testing for Other Affected Sources [40 CFR 63.1349(b)(2)]

- (1) The Permittee shall demonstrate compliance of the following affected sources with the corresponding opacity limits by conducting a test in accordance with Method 9 of Appendix A to 40 CFR Part 60:
 - (a) Raw Mill BM-301 and Swing Mill BM-302 when used for raw feed grinding;
 - (b) Finish Mills BM-303 and 304, OK Mill BM-305, and Swing Mill BM-302 when used for clinker grinding;
 - (c) Raw material dryers BM-301 and BM-302 when used for raw feed grinding;
 - (d) Each raw material, clinker, or finished product storage bin;
 - (e) Each conveying system transfer point including those associated with coal

- preparation used to convey coal from the mill to the kiln; and
- (f) Each bagging and bulk loading and unloading system.
- (2) The opacity testing shall be conducted under the conditions that exist when the affected source is operating at the representative performance conditions in accordance with 40 CFR 63.7(e). The maximum 6-minute average opacity exhibited during the test period shall be used to determine whether the affected source is in compliance with the standard. The duration of the Method 9 performance test shall be 3 hours (30 6-minute averages), except that the duration of the Method 9 performance test may be reduced to 1 hour if the following conditions apply:
- (a) There are no individual readings greater than 10 percent opacity;
- (b) There are no more than three readings of 10 percent for the first 1-hour period.
- c. D/F Emissions Testing Required for Kiln 4/In-Line Raw Mill and Coal Mill
- (1) The Permittee shall demonstrate compliance with the D/F emission limit by conducting separate performance tests as specified in Conditions III.E.1.c(2) through III.E.1.c(5) below while In-Line Raw Mill RM-306 is under normal operating conditions and while In-Line Raw Mill RM-306 is not operating. Flue samples shall be withdrawn from In-Line Raw Mill stack S-401 and from Coal Mill stack S-453. All performance tests shall be conducted and operating parameters set in accordance with a site-specific test plan required to be submitted by the Permittee and approved by the Director prior to the tests. [40 CFR 63.7(c) and 63.1349(b)(3)]
- (2) EPA Reference Method 23 shall be used to determine D/F emissions. Each performance test shall consist of three separate runs; each run shall be conducted under the conditions that exist when the affected source is operating at the representative performance conditions in accordance with 40 CFR 63.7(e). The duration of each run shall be at least three hours and the sample volume for each run shall be at least 2.5 dscm (90 dscf). The concentration shall be determined for each run and the arithmetic average of the concentration measured for the three runs shall be calculated and used to determine compliance. [40 CFR 63.1349(b)(3)(i)]
- (3) The temperature at the inlet to the In-Line Raw Mill PM control device DC-431 shall be continuously recorded during the period of the EPA Reference Method 23 test, and the continuous temperature record(s) shall be included in the performance test report. [40 CFR 63.1349(b)(3)(ii)]
- (4) One-minute average temperatures shall be calculated for each minute of each run of the test. [40 CFR 63.1349(b)(3)(iii)]
- (5) The run average temperature shall be calculated for each run, and the average of the run average temperatures shall be determined and included in the performance test report and will determine as referenced in Condition III.B.1.b of this Attachment, the applicable exhaust temperature limit while In-Line Raw Mill RM-306 is under normal operating conditions and while In-Line Raw Mill RM-306 is not operating. [40 CFR 63.1349(b)(3)(iv)]
- d. The Permittee shall document the performance test results in and submit to the Director, complete test reports that contain the following as well as all other relevant information: [40 CFR 63.1349(a) and A.A.C. R18-2-306.A.3.c]
- (1) A brief description of the process and the air pollution control system;
- (2) Sampling location description(s);
- (3) A description of sampling and analytical procedures and any modifications to standard procedures;

- (4) Test results;
 - (5) Quality assurance procedures and results;
 - (6) Records of operating conditions during the test, preparation of standards, and calibration procedures;
 - (7) Raw data sheets for field sampling and field and laboratory analyses;
 - (8) Documentation of calculations;
 - (9) All data recorded and used to establish parameters for compliance monitoring; and
 - (10) Any other information required by the test method.
2. Except as provided in Condition III.E.5 below and at such other times as may be required by the Director, performance tests required under Condition III.E.1.a above shall be repeated every five years for the purpose of 40 CFR 63, Subpart LLL, and every year for the purpose of A.A.C. R18-2-312, except that the Permittee is not required to repeat the performance test of opacity for the Kiln 4/In-Line Raw Mill and Coal Mill or clinker cooler after the initial performance test completed within 180 days of issuance of this Permit.
[40 CFR 63.1349(c) and A.A.C. R18-2-312]
 3. Performance tests required under Condition III.E.1.b above shall be repeated every five years and at such other times as may be required by the Director. [40 CFR 63.1349(c) and A.A.C. R18-2-312]
 4. Except as provided in Condition III.E.5 below and at such other times as may be required by the Director, performance tests required under Condition III.E.1.c above shall be repeated every 30 months. [40 CFR 63.1349(d)]
 5. The Permittee is required to repeat the performance tests for the Kiln 4/In-Line Raw Mill and Coal Mill system as specified in Conditions III.E.1.a and c above within 90 days of initiating any significant change in the feed or fuel from that used in the previous performance test.
[40 CFR 63.1349(e)]

F. Recordkeeping Requirements

1. The Permittee shall maintain files of all information (including all reports and notifications) required by this condition in a form suitable and readily available for inspection and review as required by 40 CFR 63.10(b)(1). The files shall be retained for at least five years following the date of each occurrence, measurement, maintenance, corrective action, report, or record. At a minimum, the most recent two years of data shall be retained on site. The remaining three years of data may be retained off site. The files may be maintained on microfilm, on a computer, on floppy disks, on magnetic tape, or on microfiche. [40 CFR 63.1355(a)]
2. The Permittee shall maintain records for each affected source as required by 40 CFR 63.10(b)(2) and (b)(3) and the following: [40 CFR 63.1355(b)]
 - a. All documentation supporting initial notifications and notifications of compliance status under 40 CFR 63.9;
 - b. All records of applicability determination, including supporting analyses; and
 - c. If the Permittee has been granted a waiver under 40 CFR 63.8(f)(6), any information demonstrating whether the source is meeting the requirements for a waiver of record keeping or reporting requirements.
3. For all continuous monitoring systems, the Permittee shall maintain all records required by 40 CFR 63.10(c) in addition to the recordkeeping requirements in Condition III.F.2 above. [40 CFR 63.1355(c)]

4. The Permittee shall maintain all records with regard to the startup, shutdown and malfunction events, as required under 40 CFR 63.6(e)(3). [40 CFR 63.6(e)(3)(iii), (iv) and (v)]
5. The Permittee shall maintain a file of all of the measurements including performance testing, continuous monitoring system performance evaluations, all continuous monitoring system or monitoring device calibration checks, and adjustments and maintenance performed on these systems or devices. This data shall be recorded in a permanent form suitable for inspection. [A.A.C. R18-2-306.A.4]

G. Reporting Requirements

1. The reporting provisions of 40 CFR Part 63, Subpart A that apply to the Permittee are listed in Table 1 to Subpart LLL in 40 CFR Part 63. [40 CFR 63.1354(a)]
2. The Permittee shall comply with the reporting requirements specified in 40 CFR 63.10 as follows: [40 CFR 63.1354(b) and A.A.C. R18-2-306.A.5]
 - a. As required by 40 CFR 63.10(d)(2), the Permittee shall report the results of performance tests as part of the notification of compliance status.
 - b. As required by 40 CFR 63.10(d)(3), the Permittee shall report the opacity results from tests required by Condition III.E above.
 - c. As required by 40 CFR 63.10(d)(5), if actions taken by a Permittee during a startup, shutdown, or malfunction (including actions taken to correct a malfunction) are consistent with the procedures specified in the Permittee's startup, shutdown, and malfunction plan specified in 40 CFR 63.6(e)(3), the Permittee shall state such information in a semi-annual report. Reports shall only be required if a startup, shutdown, or malfunction occurred during the reporting period. The startup, shutdown, and malfunction report may be submitted simultaneously with the excess emissions and continuous monitoring system performance reports.
 - d. Any time an action taken by the Permittee during a startup, shutdown, or malfunction (including actions taken to correct a malfunction) is not consistent with the procedures in the startup, shutdown, and malfunction plan, the Permittee shall make an immediate report of the actions taken for that event within 2 working days, by telephone call or facsimile (fax) transmission. The immediate report shall be followed by a letter, certified by the Permittee, explaining the circumstances of the event, the reasons for not following the startup, shutdown, and malfunction plan, and whether any excess emissions and/or parameter monitoring exceedances are believed to have occurred.
 - e. As required by 40 CFR 63.10(e)(2), the Permittee shall submit a written report of the results of the performance evaluation for the continuous monitoring system required by 40 CFR 63.8(e). The Permittee shall submit the report simultaneously with the results of the performance test.
 - f. As required by 40 CFR 63.10(e)(2), the Permittee, when using a continuous opacity monitoring system to determine opacity compliance during any performance test required under 40 CFR 63.7 and described in 40 CFR 63.6(d)(6), shall report the results of the continuous opacity monitoring system performance evaluation conducted under 40 CFR 63.8(e).
 - g. As required by 40 CFR 63.10(e)(3), for any affected source equipped with a continuous emission monitor, the Permittee shall submit an excess emissions and continuous monitoring system performance report for any event when the continuous monitoring system data indicate the source is not in compliance with the applicable emission limitation or operating parameter limit.
 - h. The Permittee shall submit a summary report semiannually along with the compliance

certification, which contains the information specified in 40 CFR 63.10(e)(3)(vi). In addition, the summary report shall include:

- (1) All exceedances of maximum control device inlet gas temperature limits specified in Condition III.B.1.b of this Attachment;
 - (2) All failures to calibrate thermocouples and other temperature sensors as required under Condition III.D.4 of this Attachment;
 - (3) The results of any combustion system component inspections conducted within the reporting period as required under Condition III.D.5 of this Attachment; and
 - (4) All failures to comply with any provision of the Operation and Maintenance Plan prescribed in Attachment “E” of this Permit.
 - (5) All startup, shutdown and malfunction events required to be reported under 40 CFR 63.6(e).
- i. If the total continuous monitoring system downtime for any CEM or any continuous monitoring system (CMS) for the reporting period is 10 percent or greater of the total operating time for the reporting period, the Permittee shall submit an excess emissions and continuous monitoring system performance report along with the summary report.

H. Notification Requirements

1. The notification provisions of 40 CFR Part 63, Subpart A that apply to the Permittee are listed in Table 1 to Subpart LLL in 40 CFR Part 63. [40 CFR 63.1353(a)]
2. The Permittee shall comply with the notification requirements in 40 CFR 63.9 as follows: [40 CFR 63.1353(b)]
 - a. Initial notifications as required by 40 CFR 63.9(b) through (d). A Title V permit may be used in lieu of the initial notification requirement under 40 CFR 63.9(b), provided the same information is contained in the permit application as required by 40 CFR 63.9(b). Permit applications shall be submitted by the same due dates as those specified for the final notification;
 - b. Notification of performance tests, as required by 40 CFR 63.7 and 63.9(e);
 - c. Notification of opacity and visible emission observations required by Condition III.E above in accordance with 40 CFR 63.6(h)(5) and Part 63.9(f);
 - d. Notification, as required by 40 CFR 63.9(g), of the date that the continuous emission monitor performance evaluation required by 40 CFR 63.8(e) is scheduled to begin;
 - e. Notification of compliance status, as required by 40 CFR 63.9(h).

I. Permit Shield

[A.A.C. R18-2-325]

Compliance with the terms of this Section shall be deemed compliance with the following applicable requirement(s) in effect on the date of permit issuance: 40 CFR 63.1343(b), 40 CFR 63.1344(a)(1), 40 CFR 63.1344(a)(2), 40 CFR 63.1344(b), 40 CFR 63.1345(a), 40 CFR 63.1346(a), 40 CFR 63.1347, 40 CFR 63.1348, 40 CFR 63.1349 (a), 40 CFR 63.1349(b)(1), 40 CFR 63.1349(b)(1)(i) through 40 CFR 63.1349(b)(1)(iii), 40 CFR 63.1349(b)(1)(v), 40 CFR 63.1349(b)(3), 40 CFR 63.1349(b)(3)(i) through 40 CFR 63.1349(b)(3)(iv), 40 CFR 63.1349(c), 40 CFR 63.1349(d), 40 CFR 63.1349(e), 40 CFR 63.1350(a), 40 CFR 63.1350(b), 40 CFR 63.1350(c), 40 CFR 63.1350(c)(1), 40 CFR 63.1350(c)(3), 40 CFR 63.1350(d), 40 CFR 63.1350(d)(1), 40 CFR 63.1350(d)(3), 40 CFR 63.1350(e), 40 CFR 63.1350(f), 40 CFR 63.1350(i), 40 CFR 63.1350(j), 40 CFR 63.1353(a), 40 CFR 63.1353(b), 40 CFR 63.1354(a), 40 CFR 63.1354(b), 40 CFR 63.1355(a) through 40 CFR 63.1355(c).

IV. QUARRY AND RAW MATERIAL CRUSHING

A. Non-New Source Performance Standards (non-NSPS) Requirements

1. Applicability

[A.A.C. R18-2-702.A]

The conditions of this subsection apply to each crusher, grinding mill, screening operation, bucket elevator, belt conveyor, bagging operation, storage bin, enclosed truck or railcar loading station which was constructed before August 31, 1983, or which was constructed after August 31, 1983 but with a primary crusher capacity less than 150 tons per hour.

2. Particulate Matter Emission Limitations/Standards

- a. The Permittee shall not cause, allow, or permit the discharge of particulate matter into the atmosphere, except as fugitive emissions, in any one hour from any gravel or crushed stone processing plant, in excess of the amounts calculated by one of the following equations: [A.A.C. R18-2-722.B]

- (1) For sources having a process weight rate of 60,000 pounds per hour (30 tons per hour) or less, the maximum allowable emissions shall be determined by the following equation:

$$E = 4.10P^{0.67}$$

where:

E = the maximum allowable particulate emissions rate in pounds-mass per hour

P = the process weight rate in tons-mass per hour

- (2) For sources having a process weight rate greater than 60,000 pounds per hour (30 tons per hour), the maximum allowable emissions shall be determined by the following equation:

$$E = 55.0P^{0.11} - 40$$

where:

E = the maximum allowable particulate emissions rate in pounds-mass per hour

P = the process weight rate in tons-mass per hour

- b. The Permittee shall not cause or allow to be discharged into the atmosphere from the affected quarry operation, any plume or effluent which exhibits an opacity greater than 20%, as determined by Reference Method 9 in 40 CFR Part 60. [A.A.C. R18-2-702.B.2 and 3]

3. Air Pollution Control Requirements

[A.A.C. R18-2-306.A.2, -331.A.3.d, -331.A.3.e, and -722.D]

- a. The Permittee shall install, maintain, and operate spray bars, including periods of startup, shutdown, and malfunction, to control visible emissions from crushing, screening, handling, transporting or conveying of materials, or other operations likely to result in significant amounts of airborne dust, or the material shall be adequately wet to minimize visible emissions to the extent practicable.
- b. Spray bar pollution controls shall be utilized in accordance with "EPA Control of Air Emissions from Process Operations in the Rock Crushing Industry" (EPA 340/1-79-002), "Wet Suppression System" (pages 15-34, amended as of January 1979 (and no future amendments or editions)), as incorporated herein by reference and on file with the Office of the Secretary of State, with placement of spray bars and nozzles as required by the Director to minimize air pollution.

4. Monitoring, Record Keeping, and Reporting Requirements

- a. Bi-weekly Monitoring for Stack Sources

[A.A.C. R18-2-306.A.3.c and -306.A.5]

- (1) Within 180 days of issuance of the Permit, the Permittee shall conduct certified EPA

Reference Method 9 performance tests in accordance with Section XVIII of Attachment "A" for the stacks associated with the quarry, while operating at normal representative working conditions, to establish a baseline opacity level for each of the stacks. Within 30 days of establishing the baseline opacity, the Permittee shall report the results to the Director.

- (2) A certified Method 9 observer shall conduct a bi-weekly visual survey of visible emissions from the stacks associated with the quarry when they are in operation. The Permittee shall keep a record of the name of the observer, the date on which the observation was made, and the results of the observation.
 - (3) If the observer sees a plume that on an instantaneous basis appears to exceed the baseline opacity level, then the observer shall, if practicable, take a six-minute Method 9 observation of the plume.
 - (4) If the six-minute opacity of the plume is less than the baseline opacity level, the observer shall make a record of the following:
 - (a) Name of the observer, location, date, and time of the observation; and
 - (b) The results of the Method 9 observation.
 - (5) If the six-minute opacity of the plume exceeds the baseline opacity level, but is less than the applicable opacity standard, the Permittee shall adjust or repair the controls or equipment to reduce opacity to or below the baseline opacity level. The observer shall make a record of the following:
 - (a) Name of the observer, location, date, and time of the observation;
 - (b) The results of the Method 9 observation;
 - (c) Date and time when corrective action was taken; and
 - (d) Type of corrective action taken.
 - (6) If the six-minute opacity of the plume exceeds the applicable opacity standard, then the Permittee shall do the following:
 - (a) Adjust or repair the controls or equipment to reduce opacity to or below the baseline level; and
 - (b) Report it as an excess emission for opacity.
 - (7) If corrective actions fail to reduce opacity to or below the baseline level, the Permittee shall adopt the following course of action:
 - (a) Document all corrective actions; and
 - (b) Initiate procedures to re-establish the baseline within forty eight hours in accordance with Condition IV.A.4.a(8) below.
 - (8) If necessitated by the results of the monthly monitoring, the Permittee may re-establish the baseline opacity level(s). Re-establishment of the baseline(s) shall be performed utilizing the same procedures used in setting up the initial baseline level(s). Within 30 days of re-establishing the baseline opacity, the Permittee shall report the results to the Director. The report shall also contain a description of the need for re-establishing the baseline(s).
- b. Bi-weekly Monitoring for Fugitive Emissions [A.A.C. R18-2-306.A.3.c and -306.A.5]
- (1) A certified Method 9 observer shall conduct a bi-weekly visual survey of fugitive emissions from the quarry when it is in operation.
 - (2) If the observer, during the visual survey, does not see any plume from any fugitive source that on an instantaneous basis appears to exceed the applicable opacity

standard, then the observer shall keep a record of the name of the observer, the date on which the observation was made, and the results of the observation.

- (3) If the observer sees a plume from a fugitive source that on an instantaneous basis appears to exceed the applicable opacity standard, then the observer shall, if practicable, take a six-minute Method 9 observation of the plume.
- (4) If the six-minute opacity of the plume exceeds the applicable opacity standard, the Permittee shall do the following:
 - (a) Adjust or repair the controls or equipment to reduce opacity to below the opacity standard;
 - (b) Report it as excess emissions.
- (5) If the six-minute opacity of the plume is less than the applicable opacity standard, the observer shall make a record of the following:
 - (a) Name of the observer, location, date, and time of the observation; and
 - (b) The results of the Method 9 observation.
- c. The Permittee shall install, calibrate, maintain, and operate monitoring devices which can be used to determine daily the process weight of gravel or crushed stone produced. The weighing devices shall have an accuracy of $\pm 5\%$ over their operating range.
[A.A.C. R18-2-722.F and -331.A.3.c]
- d. The Permittee shall maintain daily records of the crushed material produced in tons.
[A.A.C. R18-2-722.G]

B. New Source performance Standards (NSPS) Requirements

1. Applicability

[40 CFR 60.670(c)(2) and 60.670(e)]

The conditions of this subsection apply to each crusher, grinding mill, screening operation, bucket elevator, belt conveyor, bagging operation, storage bin, enclosed truck or railcar loading station which was constructed after August 31, 1983, and which has a primary crusher capacity of more than 150 tons per hour.

2. Standards for Particulate Matter

[40 CFR 60.672 and R18-2-331.A.3.f]

- a. The Permittee shall not cause to be discharged into the atmosphere from any transfer point on belt conveyors or from any other equipment any stack emissions which:
 - (1) Contain particulate matter in excess of 0.05 g/dscm (0.022 gr/dscf); and
 - (2) Exhibit greater than 7 percent opacity.
- b. The Permittee shall not cause to be discharged into the atmosphere from any transfer point on belt conveyors or from any other affected facility any fugitive emissions which exhibit greater than 10 percent opacity, except as provided in Conditions IV.B.2.c, d and e below.
- c. The Permittee shall not cause to be discharged into the atmosphere from any crusher, at which a capture system is not used, fugitive emissions which exhibit greater than 15 percent opacity.
- d. Truck dumping of nonmetallic minerals into any screening operation, feed hopper, or crusher is exempt from the requirements of Condition IV.B.2.
- e. If any transfer point on a conveyor belt or any other affected facility is enclosed in a building, then each enclosed affected facility must comply with the emission limits in Conditions IV.B.2.a, b and c above, or the building enclosing the affected facility or facilities must comply with the following emission limits:

- (1) The Permittee shall not cause to be discharged into the atmosphere from any building enclosing any transfer point on a conveyor belt or any other affected facility any visible fugitive emissions except emissions from a vent as defined in 40 CFR 60.671.
- (2) The Permittee shall not cause to be discharged into the atmosphere from any vent of any building enclosing any transfer point on a conveyor belt or any other affected facility emissions which exceed the stack emission limits in Condition IV.B.2.a above.
- f. The Permittee shall not cause to be discharged into the atmosphere from any baghouse that controls emissions from only an individual, enclosed storage bin, stack emissions which exhibit greater than 7 percent opacity.
- g. The Permittee shall comply with the emission limits in Condition IV.B.2.a above for any multiple storage bins with combined stack emissions.
- h. The Permittee shall not cause to be discharged into the atmosphere any visible emissions from:
 - (1) Wet screening operations and subsequent screening operations, bucket elevators, and belt conveyors that process saturated material in the production line up to the next crusher, grinding mill or storage bin.
 - (2) Screening operations, bucket elevators, and belt conveyors in the production line downstream of wet mining operations, where such screening operations, bucket elevators, and belt conveyors process saturated materials up to the first crusher, grinding mill, or storage bin in the production line.

3. Air Pollution Control Requirement

[A.A.C. R18-2-306.A.2, -331.A.3.d, and -331.A.3.e]

The Permittee shall install, maintain, and operate spray bars, including periods of startup, shutdown, and malfunction, to control visible emissions from crushing, screening, handling, transporting or conveying of materials, or other operations likely to result in significant amounts of airborne dust, or the material shall be adequately wet to minimize visible emissions to the extent practicable.

4. Monitoring, Record Keeping, and Reporting Requirements

A.A.C. R18-2-306.A.3.c and -306.A.5]

a. Bi-Weekly Monitoring for Stack Sources

- (1) Within 180 days of issuance of this permit, the Permittee shall conduct certified Method 9 performance tests in accordance with Section XVIII of Attachment A for the stacks associated with the quarry, while operating at normal representative working conditions, to establish a baseline opacity level for each of the stacks. Within 30 days of establishing the baseline opacity, the Permittee shall report the results to the Director.
- (2) A certified Method 9 observer shall conduct a bi-weekly (once in two weeks) visual survey of visible emissions from the stacks associated with the quarry when they are in operation. The Permittee shall keep a record of the name of the observer, the date on which the observation was made, and the results of the observation.
- (3) If the observer sees a plume that on an instantaneous basis appears to exceed the baseline opacity level, then the observer shall, if practicable, take a six-minute Method 9 observation of the plume.
- (4) If the six-minute opacity of the plume is less than the baseline opacity level, the observer shall make a record of the following:

- (a) Name of the observer, location, date, and time of the observation; and
 - (b) The results of the Method 9 observation.
 - (5) If the six-minute opacity of the plume exceeds the baseline opacity level, but is less than the applicable opacity standard, the Permittee shall adjust or repair the controls or equipment to reduce opacity to or below the baseline opacity level. The observer shall make a record of the following:
 - (a) Name of the observer, location, date, and time of the observation;
 - (b) The results of the Method 9 observation;
 - (c) Date and time when corrective action was taken; and
 - (d) Type of corrective action taken.
 - (6) If the six-minute opacity of the plume exceeds the applicable opacity standard, then the Permittee shall do the following:
 - (a) Adjust or repair the controls or equipment to reduce opacity to or below the baseline level; and
 - (b) Report it as an excess emission for opacity.
 - (7) If corrective actions fail to reduce opacity to or below the baseline level, the Permittee shall adopt the following course of action:
 - (a) Document all corrective actions; and
 - (b) Initiate procedures to re-establish the baseline within forty eight hours in accordance with Condition IV.B.4.a(8) below.
 - (8) If necessitated by the results of the bi-weekly monitoring, the Permittee may re-establish the baseline opacity level(s). Re-establishment of the baseline(s) shall be performed utilizing the same procedures used in setting up the initial baseline level(s). Within 30 days of re-establishing the baseline opacity, the Permittee shall report the results to the Director. The report shall also contain a description of the need for re-establishing the baseline(s).
- b. Bi-Weekly Monitoring for Fugitive Emissions
- (1) A certified Method 9 observer shall conduct a bi-weekly (once in two weeks) visual survey of fugitive emissions from the quarry when it is in operation.
 - (2) If the observer, during the visual survey, does not see any plume from any fugitive source that on an instantaneous basis appears to exceed the applicable opacity standard, then the observer shall keep a record of the name of the observer, the date on which the observation was made, and the results of the observation.
 - (3) If the observer sees a plume from a fugitive source that on an instantaneous basis appears to exceed the applicable opacity standard, then the observer shall, if practicable, take a six-minute Method 9 observation of the plume.
 - (4) If the six-minute opacity of the plume exceeds the applicable opacity standard, Permittee shall do the following:
 - (a) Adjust or repair the controls or equipment to reduce opacity to below the opacity standard;
 - (b) Report it as excess emissions.
 - (5) If the six-minute opacity of the plume is less than the applicable opacity standard, the observer shall make a record of the following:
 - (a) Name of the observer, location, date, and time of the observation; and

(b) The results of the Method 9 observation.

5. Testing Requirements

- a. In conducting the performance tests required in 40 CFR 60.8, the Permittee shall use as reference methods and procedures the test methods in Appendix A of 40 CFR Part 60 or other methods and procedures as specified in Condition IV.B.5, except as provided in 40 CFR 60.8(b). Acceptable alternative methods and procedures are given in Condition IV.B.5.h below. [40 CFR 60.675(a)]
- b. The Permittee shall determine compliance with the particulate matter standards in Condition IV.B.2.a above as follows: [40 CFR 60.675(b)(2)]
 - (1) Method 5 or Method 17 shall be used to determine the particulate matter concentration. The sample volume shall be at least 1.70 dscm (60 dscf). For Method 5, if the gas stream being sampled is at ambient temperature, the sampling probe and filter may be operated without heaters. If the gas stream is above ambient temperature, the sampling probe and filter may be operated at a temperature high enough, but no higher than 121 °C (250 °F), to prevent water condensation on the filter.
 - (2) Method 9 and the procedures in 40 CFR 60.11 shall be used to determine opacity.
- c. In determining compliance with the particulate matter standards in Conditions IV.B.2.b and c above, the Permittee shall use Method 9 and the procedures in 40 CFR 60.11, with the following additions: [40 CFR 60.675(c)(1)]
 - (1) The minimum distance between the observer and the emission source shall be 4.57 meters (15 feet).
 - (2) The observer shall, when possible, select a position that minimizes interference from other fugitive emission sources (e.g., road dust). The required observer position relative to the sun (Method 9, Section 2.1) must be followed.
 - (3) For facilities using wet dust suppression for particulate matter control, a visible mist is sometimes generated by the spray. The water mist must not be confused with particulate matter emissions and is not to be considered a visible emission. When a water mist of this nature is present, the observation of emissions is to be made at a point in the plume where the mist is no longer visible.
- d. In determining compliance with the opacity of stack emissions from any baghouse that controls emissions only from an individual enclosed storage bin under Condition IV.B.2.f above, using Method 9, the duration of the Method 9 observations shall be 1 hour (ten 6-minute averages). [40 CFR 60.675(c)(2)]
- e. When determining compliance with the fugitive emissions standard for any facility described under Condition IV.B.2.b above, the duration of the Method 9 observations may be reduced from 3 hours (thirty 6-minute averages) to 1 hour (ten 6-minute averages) only if the following conditions apply: [40 CFR 60.675(c)(3)]
 - (1) There are no individual readings greater than 10 percent opacity; and
 - (2) There are no more than 3 readings of 10 percent for the 1-hour period.
- f. When determining compliance with the fugitive emissions standard for any crusher at which a capture system is not used as described under Condition IV.B.2.c above, the duration of the Method 9 observations may be reduced from 3 hours (thirty 6-minute averages) to 1 hour (ten 6-minute averages) only if the following conditions apply: [40 CFR 60.675(c)(4)]
 - (1) There are no individual readings greater than 15 percent opacity; and

- (2) There are no more than 3 readings of 15 percent for the 1-hour period.
- g. In determining compliance with Condition IV.B.2.e above, the Permittee shall use Method 22 to determine fugitive emissions. The performance test shall be conducted while all affected facilities inside the building are operating. The performance test for each building shall be at least 75 minutes in duration, with each side of the building and the roof being observed for at least 15 minutes. [40 CFR 60.675(d)]
- h. For the method and procedure of Condition IV.B.5.c above, if emissions from two or more facilities continuously interfere so that the opacity of fugitive emissions from an individual affected facility cannot be read, the Permittee may use either of the following procedures as alternatives to the reference methods and procedures specified in this Section: [40 CFR 60.675(e)]
- (1) Use for the combined emission stream the highest fugitive opacity standard applicable to any of the individual affected facilities contributing to the emissions stream.
- (2) Separate the emissions so that the opacity of emissions from each affected facility can be read.
- i. If, after 30 days notice for an initially scheduled performance test, there is a delay (due to operational problems, etc.) in conducting any re-scheduled performance test required, the Permittee shall submit a notice to the Director at least 7 days prior to any rescheduled performance test. [40 CFR 60.675(g)]
- j. Initial Method 9 performance tests under 40 CFR 60.11 and Condition IV.B.5 of this subsection are not required for: [40 CFR 60.675(h)]
- (1) Wet screening operations and subsequent screening operations, bucket elevators, and belt conveyors that process saturated material in the production line up to, but not including the next crusher, grinding mill or storage bin.
- (2) Screening operations, bucket elevators, and belt conveyors in the production line downstream of wet mining operations, that process saturated materials up to the first crusher, grinding mill, or storage bin in the production line.
6. Notification Requirements
- a. In order to comply with 40 CFR 60.670(d), the Permittee shall submit to the Director the following information about the existing facility being replaced and the replacement piece of equipment. [40 CFR 60.676(a)]
- (1) For a crusher, grinding mill, bucket elevator, bagging operation, or enclosed truck or railcar loading station:
- (a) The rated capacity in tons per hour of the existing facility being replaced; and
- (b) The rated capacity in tons per hour of the replacement equipment.
- (2) For a screening operation:
- (a) The total surface area of the top screen of the existing screening operation being replaced; and
- (b) The total surface area of the top screen of the replacement screening operation.
- (3) For a conveyor belt:
- (a) The width of the existing belt being replaced; and
- (b) The width of the replacement conveyor belt.
- (4) For a storage bin:

- (a) The rated capacity in tons of the existing storage bin being replaced; and
 - (b) The rated capacity in tons of replacement storage bins.
- b. The Permittee shall submit written reports of the results of all performance tests conducted to demonstrate compliance with the standards set forth in Condition IV.B.2 of this subsection, including reports of opacity observations made using Method 9 to demonstrate compliance with Conditions IV.B.2.b, c and f above, and reports of observations using Method 22 to demonstrate compliance with Condition IV.B.2.e.
[40 CFR 60.676(f)]
- c. The Permittee of any screening operation bucket elevator, or belt conveyor that processes saturated material and is subject to Condition IV.B.2.h above and subsequently processes unsaturated materials, shall submit a report of this change within 30 days following such change. This screening operation, bucket elevator, or belt conveyor is then subject to the 10 percent opacity limit in Condition IV.B.2.b above and the emission test requirements of 40 CFR 60.11 and of this Section. Likewise a screening operation, bucket elevator, or belt conveyor that processes unsaturated material but subsequently processes saturated material shall submit a report of this change within 30 days following such change. This screening operation, bucket elevator, or belt conveyor is then subject to the no visible emission limit in Condition IV.B.2.h above.
[40 CFR 60.676(g)]

C. Permit Shield

[A.A.C. R18-2-325]

Compliance with the terms of this Section shall be deemed compliance with the following applicable requirement(s) in effect on the date of permit issuance: A.A.C. R18-2-702.B(1), A.A.C. R18-2-722.B, A.A.C. R18-2-722.D, A.A.C. R18-2-722.F, A.A.C. R18-2-722.G, 40 CFR 60.670(c)(2), 40 CFR 60.670(e), 40 CFR 60.672, 40 CFR 60.675(a), 40 CFR 60.675(b)(2), 40 CFR 60.675(c), 40 CFR 60.675(d), 40 CFR 60.675(e), 40 CFR 60.675(g), 40 CFR 60.675(h), 40 CFR 60.676(a), 40 CFR 60.676(f), and 40 CFR 60.676(g).

V. COAL PREPARATION OPERATIONS

A. Non-New Source Performance Standards (NSPS) Standards

1. Applicability

A non-NSPS affected facility is defined as each coal processing and conveying equipment (including breakers and crushers), coal storage systems, and coal transfer and loading systems which has a capacity of less than 200 tons per day. For each non-NSPS affected facility identified in Attachment "D," refer to the following applicable conditions.

2. Particulate Matter Emission Limitations/Standards

- a. The Permittee shall not cause, allow, or permit the discharge of particulate matter into the atmosphere, except as fugitive emissions, in any one hour from any coal preparation plant equipment, in excess of the amounts calculated by one of the following equations:

[A.A.C. R18-2-716.B]

- (1) For sources having a process weight rate of 60,000 pounds per hour (30 tons per hour) or less, the maximum allowable emissions shall be determined by the following equation:

$$E = 4.10P^{0.67}$$

where:

E = the maximum allowable particulate emissions rate in pounds-mass per hour

P = the process weight rate in tons-mass per hour

- (2) For sources having a process weight rate greater than 60,000 pounds per hour (30

tons per hour), the maximum allowable emissions shall be determined by the following equation:

$$E = 55.0P^{0.11} - 40$$

where:

E = the maximum allowable particulate emissions rate in pounds-mass per hour

P = the process weight rate in tons-mass per hour

- b. For the purposes of Condition V.A.2 above, the total process weight from all similar units employing a similar type process shall be used in determining the maximum allowable emissions of particulate matter. [A.A.C. R18-2-716.D]

- c. The Permittee shall not cause or allow to be discharged into the atmosphere from the affected coal preparation operation, any plume or effluent which exhibits an opacity greater than 20%, as determined by Reference Method 9 in 40 CFR Part 60.

[A.A.C. R18-2-702.B.2 and 3]

3. Monitoring, Record Keeping, and Reporting Requirements [A.A.C. R18-2-306.A.3.c and -306.A.5]

a. Bi-weekly Monitoring for Stack Sources

- (1) Within 180 days of issuance of this permit, the Permittee shall conduct certified Method 9 performance tests in accordance with Section XVIII of Attachment A for the stacks associated with the coal preparation operations, while operating at normal representative working conditions, to establish a baseline opacity level for each of the stacks. Within 30 days of establishing the baseline opacity, the Permittee shall report the results to the Director.
- (2) A certified Method 9 observer shall conduct a bi-weekly visual survey of visible emissions from the stacks associated with the coal preparation operations when they are in operation. The Permittee shall keep a record of the name of the observer, the date on which the observation was made, and the results of the observation.
- (3) If the observer sees a plume that on an instantaneous basis appears to exceed the baseline opacity level, then the observer shall, if practicable, take a six-minute Method 9 observation of the plume.
- (4) If the six-minute opacity of the plume is less than the baseline opacity level, the observer shall make a record of the following:
 - (a) Name of the observer, location, date, and time of the observation; and
 - (b) The results of the Method 9 observation.
- (5) If the six-minute opacity of the plume exceeds the baseline opacity level, but is less than the applicable opacity standard, the Permittee shall adjust or repair the controls or equipment to reduce opacity to or below the baseline opacity level. The observer shall make a record of the following:
 - (a) Name of the observer, location, date, and time of the observation;
 - (b) The results of the Method 9 observation;
 - (c) Date and time when corrective action was taken; and
 - (d) Type of corrective action taken.
- (6) If the six-minute opacity of the plume exceeds the applicable opacity standard, then the Permittee shall do the following:
 - (a) Adjust or repair the controls or equipment to reduce opacity to or below the baseline level; and
 - (b) Report it as an excess emission for opacity.

- (7) If corrective actions fail to reduce opacity to or below the baseline level, the Permittee shall adopt the following course of action:
 - (a) Document all corrective actions; and
 - (b) Initiate procedures to re-establish the baseline within forty eight hours in accordance with Condition V.A.3.a(8) below.
 - (8) If necessitated by the results of the monthly monitoring, the Permittee may re-establish the baseline opacity level(s). Re-establishment of the baseline(s) shall be performed utilizing the same procedures used in setting up the initial baseline level(s). Within 30 days of re-establishing the baseline opacity, the Permittee shall report the results to the Director. The report shall also contain a description of the need for re-establishing the baseline(s).
- b. Bi-weekly Monitoring for Fugitive Emissions
- (1) A certified Method 9 observer shall conduct a bi-weekly visual survey of fugitive emissions from the coal preparation operations when they are in operation.
 - (2) If the observer, during the visual survey, does not see any plume from any fugitive source that on an instantaneous basis appears to exceed the applicable opacity standard, then the observer shall keep a record of the name of the observer, the date on which the observation was made, and the results of the observation.
 - (3) If the observer sees a plume from a fugitive source that on an instantaneous basis appears to exceed the applicable opacity standard, then the observer shall, if practicable, take a six-minute Method 9 observation of the plume.
 - (4) If the six-minute opacity of the plume exceeds the applicable opacity standard, Permittee shall do the following:
 - (a) Adjust or repair the controls or equipment to reduce opacity to below the opacity standard;
 - (b) Report it as excess emissions.
 - (5) If the six-minute opacity of the plume is less than the applicable opacity standard, the observer shall make a record of the following:
 - (a) Name of the observer, location, date, and time of the observation; and
 - (b) The results of the Method 9 observation.

B. New Source Performance Standards (NSPS) Standards

1. Applicability

[40 CFR 60.250]

An NSPS affected facility is defined as each coal processing and conveying equipment (including breakers and crushers), thermal dryer, coal storage systems, and coal transfer and loading systems which has a capacity of 200 tons per day or more, and which commenced construction or modification after October 24, 1974. For each NSPS affected facility identified in Attachment "D", refer to the following applicable conditions.

2. Particulate Matter Emission Limitations/Standards

[40 CFR 60.252(c) and A.A.C. R18-2-331.A.3.f]

- a. On and after the date on which the performance test required to be conducted by 40 CFR 60.8 is completed, the Permittee shall not cause to be discharged into the atmosphere from Coal Mill RM-450, gases which:
 - (1) Contain particulate matter in excess of 0.070 g / cm (0.031 gr / cf).
 - (2) Exhibit 20 percent opacity or greater.

- b. On and after the date on which the performance test required to be conducted by 40 CFR 60.8 is completed, the Permittee shall not cause to be discharged into the atmosphere from any coal processing and conveying equipment, coal storage system, or coal transfer and loading system processing coal, gases which exhibit 20 percent opacity or greater.
- 3. Monitoring, Record Keeping, and Reporting Requirements [A.A.C. R18-2-306.A.3.c and -306.A.5]
 - a. The Permittee shall apply the COMS at Coal Mill stack S-453 required under Section III of this Attachment to monitor compliance with Condition V.B.2.a above.
 - b. The Permittee shall install, calibrate, maintain, and continuously operate a monitoring device for the measurement of the temperature of the gas stream at the exit of the Coal Mill RM-450 on a continuous basis. The monitoring device shall be certified by the manufacturer to be accurate within ± 1.7 °C (± 3 °F) and recalibrated annually in accordance with procedures under 40 CFR 60.13(b).
[40 CFR 60.253(a)(1) and 253(b) and A.A.C. R18-2-331.A.3.c]
 - c. Bi-Weekly Monitoring for Stack Sources

The Permittee shall implement the following for all NSPS affected stack sources under Subsection V.B except for Coal Mill stack S-453:

- (1) Within 180 days of issuance of this permit, the Permittee shall conduct certified Method 9 performance tests in accordance with Section XVIII of Attachment A for the stacks associated with the coal preparation operations, while operating at normal representative working conditions, to establish a baseline opacity level for each of the stacks. Within 30 days of establishing the baseline opacity, the Permittee shall report the results to the Director.
- (2) A certified Method 9 observer shall conduct a bi-weekly (once in two weeks) visual survey of visible emissions from the stacks associated with the coal preparation operations when they are in operation. The Permittee shall keep a record of the name of the observer, the date on which the observation was made, and the results of the observation.
- (3) If the observer sees a plume that on an instantaneous basis appears to exceed the baseline opacity level, then the observer shall, if practicable, take a six-minute Method 9 observation of the plume.
- (4) If the six-minute opacity of the plume is less than the baseline opacity level, the observer shall make a record of the following:
 - (a) Name of the observer, location, date, and time of the observation; and
 - (b) The results of the Method 9 observation.
- (5) If the six-minute opacity of the plume exceeds the baseline opacity level, but is less than the applicable opacity standard, the Permittee shall adjust or repair the controls or equipment to reduce opacity to or below the baseline opacity level. The observer shall make a record of the following:
 - (a) Name of the observer, location, date, and time of the observation;
 - (b) The results of the Method 9 observation;
 - (c) Date and time when corrective action was taken; and
 - (d) Type of corrective action taken.
- (6) If the six-minute opacity of the plume exceeds the applicable opacity standard, then the Permittee shall do the following:
 - (a) Adjust or repair the controls or equipment to reduce opacity to or below the baseline level; and

- (b) Report it as an excess emission for opacity.
- (7) If corrective actions fail to reduce opacity to or below the baseline level, the Permittee shall adopt the following course of action:
 - (a) Document all corrective actions; and
 - (b) Initiate procedures to re-establish the baseline within forty eight hours in accordance with Condition V.B.3.c(8) below.
- (8) If necessitated by the results of the bi-weekly monitoring, the Permittee may re-establish the baseline opacity level(s). Re-establishment of the baseline(s) shall be performed utilizing the same procedures used in setting up the initial baseline level(s). Within 30 days of re-establishing the baseline opacity, the Permittee shall report the results to the Director. The report shall also contain a description of the need for re-establishing the baseline(s).

d. Bi-Weekly Monitoring for Fugitive Emissions

- (1) A certified Method 9 observer shall conduct a bi-weekly (once in two weeks) visual survey of fugitive emissions from the coal preparation operations when they are in operation.
- (2) If the observer, during the visual survey, does not see any plume from any fugitive source that on an instantaneous basis appears to exceed the applicable opacity standard, then the observer shall keep a record of the name of the observer, the date on which the observation was made, and the results of the observation.
- (3) If the observer sees a plume from a fugitive source that on an instantaneous basis appears to exceed the applicable opacity standard, then the observer shall, if practicable, take a six-minute Method 9 observation of the plume.
- (4) If the six-minute opacity of the plume exceeds the applicable opacity standard, Permittee shall do the following:
 - (a) Adjust or repair the controls or equipment to reduce opacity to below the opacity standard;
 - (b) Report it as excess emissions.
- (5) If the six-minute opacity of the plume is less than the applicable opacity standard, the observer shall make a record of the following:
 - (a) Name of the observer, location, date, and time of the observation; and
 - (b) The results of the Method 9 observation.

4. Test methods and procedures

[40 CFR 60.254(b)]

The Permittee shall conduct performance tests once every five years as follows to determine compliance with the particular matter standards set forth in Condition V.B.2 above:

- a. EPA Reference Method 5 shall be used to determine the particulate matter concentration. The sampling time and sample volume for each run shall be at least 60 minutes and 0.85 dscm (30 dscf). Sampling shall begin no less than 30 minutes after startup and shall terminate before shutdown procedures begin.
- b. EPA Reference Method 9 and the procedures in 40 CFR 60.11 shall be used to determine opacity.
- c. The testing results from Section III of this Attachment may be used to satisfy the testing requirement under this Section.

C. Permit Shield

[A.A.C. R18-2-325]

Compliance with the terms of this Section shall be deemed compliance with the following applicable requirement(s) in effect on the date of permit issuance: 40 CFR 60.252(c), A.A.C. R18-2-716.B, and A.A.C. R18-2-716.D.

VI. COOLING TOWERS AND OTHER UNCLASSIFIED POINT SOURCES

A. Applicability

Section VI applies to cooling towers and all other point sources which are not subject to conditions required under Sections II through V above.

B. Particulate Matter Emission Limitations/Standards

1. The Permittee shall not cause, allow, or permit the discharge of particulate matter into the atmosphere, except as fugitive emissions, in any one hour from Cooling Towers in excess of the amounts calculated by one of the following equations: [A.A.C. R18-2-730.A]

- a. For sources having a process weight rate of 60,000 pounds per hour (30 tons per hour) or less, the maximum allowable emissions shall be determined by the following equation:

$$E = 4.10P^{0.67}$$

where:

E = the maximum allowable particulate emissions rate in pounds-mass per hour

P = the process weight rate in tons-mass per hour

- b. For sources having a process weight rate greater than 60,000 pounds per hour (30 tons per hour), the maximum allowable emissions shall be determined by the following equation:

$$E = 55.0P^{0.11} - 40$$

where:

E = the maximum allowable particulate emissions rate in pounds-mass per hour

P = the process weight rate in tons-mass per hour

2. For the purposes of Condition VI.B.1 above, the total process weight from all similar units employing a similar type process shall be used in determining the maximum allowable emission of particulate matter. [A.A.C. R18-2-730.B]
3. The Permittee shall not emit gaseous or odorous materials in such quantities or concentrations as to cause air pollution. [A.A.C. R18-2-730.D]
4. The Permittee shall not cause or allow to be discharged into the atmosphere from Cooling Towers and if applicable, other affected point sources, any plume or effluent which exhibits an opacity greater than 20%, as determined by Reference Method 9 in 40 CFR Part 60. [A.A.C. R18-2-702.B.2 and 3]

C. Monitoring Requirement

[A.A.C. R18-2-306.A.3.a]

Upon issuance of this Permit, an EPA Reference Method 9 or Method 22 observation, whichever is more appropriate, of emissions from Cooling Towers 1 through 3 and other miscellaneous point source emissions shall be conducted by a certified Method 9 observer each month.

D. Record Keeping Requirements

[A.A.C. R18-2-306.A.4]

Upon completion of the observation required in Condition VI.C above, the Permittee shall record the name of the observer, date, time, location, results, and type of observation.

E. Permit Shield

[A.A.C. R18-2-325]

Compliance with the terms of this Section shall be deemed compliance with the following applicable requirement(s) in effect on the date of permit issuance: A.A.C. R18-2-702.B(1), A.A.C. R18-2-730.A, A.A.C. R18-2-730.B, and A.A.C. R18-2-730.D.

VII. FUGITIVE DUST SOURCES

A. Applicability

The conditions of this Section apply to fugitive dust sources for the plant operation. A fugitive dust source means any source of air contaminants which, due to lack of an identifiable emission point or plume, cannot be considered a point source. For the purposes of this Section, conveyor transfer points shall be considered to have identifiable plumes.

B. Emission Limitations/Standards

1. Dust Control Plan

[A.A.C. R18-2-306.01.A]

The Permittee shall operate the facility in accordance with Dust Control Plan, Attachment “D” of this Permit.

2. Open Areas, Dry Washes, or Riverbeds

[A.A.C. R18-2-604.A and -604.B]

- a. The Permittee shall not cause, allow, or permit a building or its appurtenances, or a building or subdivision site, or a driveway, or a parking area, or a vacant lot or sales lot, or an urban or suburban open area to be constructed, used, altered, repaired, demolished, cleared, or leveled, or the earth to be moved or excavated without taking reasonable precautions to limit excessive amounts of particulate matter from becoming airborne.
- b. Dust and other types of air contaminants shall be kept to a minimum by good modern practices such as using an approved dust suppressant or adhesive soil stabilizer, paving, covering, landscaping, continuous wetting, detouring, barring access, or other acceptable means.
- c. The Permittee shall not cause, allow, or permit a vacant lot, or an urban or suburban open area, to be driven over or used by motor vehicles, trucks, cars, cycles, bikes, or buggies, or by animals such as horses, without taking reasonable precautions to limit excessive amounts of particulates from becoming airborne.

3. Roadways and Streets

- a. The Permittee shall not cause, allow, or permit the use, repair, construction or reconstruction of a roadway or alley without taking reasonable precautions to prevent excessive amounts of particulate matter from becoming airborne. Dust and other particulates shall be kept to a minimum by employing temporary paving, dust suppressants, wetting down, detouring or by other reasonable means. [A.A.C. R18-2-605.A]
- b. The Permittee shall not cause, allow, or permit transportation of materials likely to give rise to airborne dust without taking reasonable precautions, such as wetting, applying dust suppressants, or covering the load, to prevent particulate matter from becoming airborne. Earth or other material shall be removed from paved streets onto which earth or other material has been transported by trucking or earth moving equipment, erosion by water, or by other means. [A.A.C. R18-2-605.B]
- c. The Permittee shall not cause, allow, or permit the cleaning of any site, roadway, or alley without taking reasonable precautions to prevent particulate matter from becoming airborne. Reasonable precautions may include applying dust suppressants. Earth or other

material shall be removed from paved streets onto which earth or other material has been transported by trucking or earth moving equipment, erosion by water, or by other means.
[A.A.C. R18-2-804.B]

4. Material Handling [A.A.C. R18-2-606]

The Permittee shall not cause, allow, or permit crushing, screening, handling, transporting, or conveying of materials or other operations likely to result in significant amounts of airborne dust without taking reasonable precautions, such as the use of spray bars, wetting agents, dust suppressants, covering the load, and hoods to prevent excessive amounts of particulate matter from becoming airborne.

5. Storage Piles [A.A.C. R18-2-607]

- a. The Permittee shall not cause, allow, or permit organic or inorganic dust producing material to be stacked, piled, or otherwise stored without taking reasonable precautions such as chemical stabilization, wetting, or covering to prevent excessive amounts of particulate matter from becoming airborne.
- b. Stacking and reclaiming machinery utilized at storage piles shall be operated at all times with a minimum fall of material and in such manner, or with the use of spray bars and wetting agents, as to prevent excessive amounts of particulate matter from becoming airborne.

6. Evaluation of Fugitive Dust Source Emissions [A.A.C. R18-2-612]

Opacity of an emission from any fugitive dust source shall not be greater than 40% measured in accordance with EPA Reference Method 9.

7. Open Burning [A.A.C. R18-2-602]

Except as provided in A.A.C. R18-2-602.C(1), C(3), and C(4), and except when permitted to do so by either ADEQ or the local officer delegated the authority for issuance of open burning permits, the Permittee shall not conduct open burning.

C. Monitoring, Record Keeping, and Reporting Requirements [A.A.C. R18-2-306.A.3.a]

1. Daily Monitoring for Fugitive Dust Emissions [A.A.C. R18-2-306.A.3.c and -306.A.5]

- a. A certified Method 9 observer shall conduct a daily visual survey of fugitive dust emissions when the facility is operating.
- b. If the observer, during the visual survey, does not see any plume from any fugitive dust source that on an instantaneous basis appears to exceed the applicable opacity standard, then the observer shall keep a record of the name of the observer, the date on which the observation was made, and the results of the observation.
- c. If the observer sees a plume from a fugitive dust source that on an instantaneous basis appears to exceed the applicable opacity standard, then the observer shall, if practicable, take a six-minute Method 9 observation of the plume.
- d. If the six-minute opacity of the plume exceeds the applicable opacity standard, the Permittee shall do the following:
 - (1) Adjust or repair the controls or equipment to reduce opacity to below the opacity standard;
 - (2) Report it as excess emissions.
- e. If the six-minute opacity of the plume is less than the applicable opacity standard, the observer shall make a record of the following:

- (1) Name of the observer, location, date, and time of the observation; and
 - (2) The results of the Method 9 observation.
2. The Permittee shall maintain records of the dates on which any of the activities listed in Conditions VIII.B.2 through VIII.B.7 above were performed and all control measures which were employed. [A.A.C. R18-2-306.A.4]
 3. The Permittee shall maintain copies of all open burning permits on file. [A.A.C. R18-2-306.A.4]
- D. Permit Shield [A.A.C. R18-2-325]
- Compliance with the terms of this Section shall be deemed compliance with the following applicable requirement(s) in effect on the date of permit issuance: A.A.C. R18-2-602, A.A.C. R18-2-604, A.A.C. R18-2-605, A.A.C. R18-2-606, A.A.C. R18-2-607, A.A.C. R18-2-612, and A.A.C. R18-2-804.

VIII. OTHER PERIODIC ACTIVITIES

A. Emission Limitations/Standards

1. Abrasive Blasting

- a. The Permittee shall not cause or allow sandblasting or other abrasive blasting without minimizing dust emissions to the atmosphere through the use of good modern practices. Good modern practices include: [A.A.C. R18-2-726]
 - (1) Wet blasting;
 - (2) Effective enclosures with necessary dust collecting equipment; or
 - (3) Any other method as approved by the Director.
- b. The Permittee shall not cause to be discharged into the atmosphere from sandblasting or other abrasive blasting operations any emissions greater than 40 percent opacity until April 23, 2006, after which, the opacity of any plume or effluent shall not be greater than 20 percent. [A.A.C. R18-2-702.B.2 and R18-2-702.B.3]

2. Use of Paints

While performing spray painting operations the Permittee shall comply with the following requirements:

- a. The Permittee shall not conduct any spray painting operation without minimizing organic solvent emissions. Such operations other than architectural coating and spot painting shall be conducted in an enclosed area equipped with controls containing no less than 96 percent of the overspray. [A.A.C. R18-2-727.A]
- b. The Permittee shall not either: [A.A.C. R18-2-727.B]
 - (1) Employ, apply, evaporate or dry any architectural coating containing photo-chemically reactive solvents for industrial or commercial purposes; or
 - (2) Thin or dilute any architectural coating with a photo-chemically reactive solvent.
- c. For the purposes of part b. and e. of this condition, a photo-chemically reactive solvent shall be any solvent with an aggregate of more than 20 percent of its total volume composed of the chemical compounds classified in paragraphs (1) through (3) of this subsection, or which exceeds any of the following percentage composition limitations, referred to the total volume of solvent: [A.A.C. R18-2-727.C]

- (1) A combination of the following types of compounds having an olefinic or cyclo-olefinic type of unsaturation - hydrocarbons, alcohols, aldehydes, esters, ethers, or ketones: five percent
 - (2) A combination of aromatic compounds with eight or more carbon atoms to the molecule except ethylbenzene: eight percent
 - (3) A combination of ethylbenzene, ketones having branched hydrocarbon structures, trichloroethylene or toluene: twenty percent.
- d. Whenever any organic solvent or any constituent of an organic solvent may be classified from its chemical structure into more than one of the groups or organic compounds described in subsection c(1) through c(3) of this condition, it shall be considered to be a member of the group having the least allowable percent of the total volume of solvents. [A.A.C. R18-2-727.D]
- e. The Permittee shall not dispose by evaporation more than 1.5 gallons of photo-chemically reactive solvent in any one day. [SIP Provision R9-3-527.C]
3. Surface Coating Operations [A.A.C R18-2-730.L]
 - a. The Permittee shall not operate any surface coating application systems that emits volatile organic compounds in excess of the following:
 - (1) 4.3 pounds per gallon (0.5 kilograms per liter) of coating, excluding water, delivered to a coating applicator that applies clear coatings.
 - (2) 3.5 pounds per gallon (0.42 kilograms per liter) of coating, excluding water, delivered to a coating applicator in a coating application system that is air dried or forced warm air dried at temperatures up to 194 °F (90 °C).
 - (3) 3.5 pounds per gallon (0.42 kilograms per liter) of coating, excluding water, delivered to a coating applicator that applies extreme performance coatings.
 - (4) 3.0 pounds per gallon (0.36 kilograms per liter) of coating, excluding water, delivered to a coating applicator for all other coatings and application systems.
 - b. If more than one emission limitation in paragraph XI.A.3.a above applies to a specific coating, then the least stringent emissions limitation shall be applied.
 - c. All VOC emissions from solvent washings shall be considered in the emissions limitations listed in paragraph XI.A.3.a above, unless the solvent is directed to containers that prevent evaporation to the atmosphere.
4. Vapor Extractors

Materials including solvents or other volatile compounds shall be processed, stored, used and transported in such a manner and by such means that they will not evaporate, leak, escape or be otherwise discharged into the ambient air so as to cause or contribute to air pollution. Where means are available to reduce effectively the contribution to air pollution from evaporation, leakage or discharge, the installation and use of such control methods, devices, or equipment shall be mandatory. [A.A.C. R18-2-730.F]
5. Landfill Operations

The Permittee shall not emit gaseous or odorous materials from the landfill operations in such quantities or concentrations to cause air pollution. [A.A.C. R18-2-730.D]
6. Mobile Sources
 - a. Classification

The requirements of this condition are applicable to mobile sources which either move while emitting air contaminants or are frequently moved during the course of their utilization but are not classified as motor vehicles, agricultural vehicles, or are agricultural equipment used in normal farm operations. Mobile sources shall not include portable sources as defined in A.A.C. R18-2-101.84. [A.A.C. R18-2-801]

b. Roadway and Site Cleaning Machinery

The Permittee shall not cause, allow, or permit to be emitted into the atmosphere from any roadway and site cleaning machinery smoke or dust for any period greater than ten consecutive seconds, the opacity of which exceeds 40 percent. Visible emissions when starting cold equipment shall be exempt from this requirement for the first ten minutes. [A.A.C. R18-2-804.A]

7. Demolition/Renovation

The Permittee shall comply with the applicable requirements of 40 CFR 61 Subpart M (National Emissions Standards for Hazardous Air Pollutants - Asbestos). [A.A.C. R18-2-1101.A.8]

B. Monitoring, Recordkeeping, and Reporting [A.A.C. R18-2-306.A.3.c]

1. Abrasive Blasting

Each time an abrasive blasting project is conducted, the Permittee shall log in ink or in an electronic format, a record of the following:

- a. The date the project was conducted;
- b. The duration of the project; and
- c. Type of control measures employed.

2. Use of Paints

a. Each time a spray painting project is conducted, the Permittee shall log in ink or in an electronic format, a record of the following:

- (1) The date the project was conducted;
- (2) The duration of the project;
- (3) Type of control measures employed; and
- (4) Material Safety Data Sheets for all paints and solvents used in the project.

b. Architectural coating and spot painting projects shall be exempt from the recordkeeping requirements of Condition IX.B.2.a above.

3. Surface coating activities

a. The Permittee shall log in ink or keep in an electronic format records of the following:

- (1) The date the project was conducted;
- (2) The duration of the project;
- (3) Type of control measures employed
- (4) Amount of surface coating used for the project
- (5) Copies of the material safety and data sheets (MSDS) for each surface coating applied.

b. The Permittee shall use vendor provided information to ensure that the surface coating materials being used satisfy the standards in Condition IX.A.3.a above. In the absence of

vendor provided information, the Permittee shall perform engineering calculations using the density and VOC content of the surface coating in order to compare against the standards set forth in Condition IX.A.3.a above.

4. Mobile Sources

The Permittee shall keep a record of all emissions related maintenance activities performed on the Permittee's mobile sources stationed at the facility as per manufacturer's specifications.

5. Demolition/Renovation

The Permittee shall keep all required records in a file. The required records include the ANESHAP Notification for Renovation and Demolition Activities form and all supporting documents.

C. Permit Shield

[A.A.C. R18-2-325]

Compliance with this Section shall be deemed compliance with A.A.C. R18-2-702.B.C, R18-2-702.B.3, R18-2-726, R18-2-727.A, R18-2-727.B, R18-2-727.C, R18-2-727.D, SIP Provision R9-3-527.C, R18-2-730.D, R18-2-730.F, and R18-2-730.L, and R18-2-1101.A.8.

IX. AMBIENT MONITORING REQUIREMENTS

[A.A.C. R18-2-306.A.3.d]

A. PM-10 Monitoring

The Permittee shall maintain and operate ambient PM-10 samplers at two sites previously approved by ADEQ. The network shall comply with the following requirements:

1. General Requirements

- a. Samplers: Andersen Dichotomous PM-10 sampler model SA241M or equivalent
- b. Particle sizes to be measured: 0-2.5 microns and 2.5-10 microns

2. Sample Laboratory Analysis

- a. Each sample in the two size ranges shall be weighted and their concentrations calculated, totaled, and then reported as 24-hour concentrations of total PM-10 in standard micrograms per cubic meter. The results for each of the two size ranges shall also be reported.
- b. A laboratory analysis shall be performed on three samples, one with the highest PM-10 mass, one with the lowest PM-10 mass, and one with the PM-10 mass closest to the average of the quarter. The laboratory mass measurements and subsequent data reporting shall be done in accordance with the respective manufacturer's instruction manuals and in accordance with the specification contained in the latest revision of Section 2.10 of the Quality Assurance Handbook for Air Pollution Measurement Systems, Volume II, U.S. Environmental Protection Agency.
- c. The following elemental mass concentrations shall be determined and recorded as 24-hour average concentrations expressed as microgram per cubic meter: Aluminum (Al), Arsenic (As), Barium (Ba), Beryllium (Be), Cadmium (Cd), Calcium (Ca), Chlorine (Cl), Chromium (Cr), Copper (Cu), Iron (Fe), Lead (Pb), Manganese (Mn), Mercury (Hg), Nickel (Ni), Phosphorus (P), Potassium (K), Selenium (Se), Silicon (Si), Sodium (Na), Strontium (Sr), Sulfur (S), Titanium (Ti), Vanadium (V), Zinc (Zn), Zirconium (Zr).

3. Quality Assurance

- a. All samplers shall be operated, calibrated, and maintained in accordance with the

procedures set forth in the respective manufacturer's instruction manuals and in accordance with the latest revision of Section 2.10 of the Quality Assurance Handbook for Air Pollution Measurement Systems, Volume II, U.S. Environmental Protection Agency. The samplers shall be sited, maintained, operated in accordance with the applicable requirements of Appendix J of 40 CFR Part 50, Appendix A of 40 CFR Part 58, and Appendix E of 40 CFR Part 58.

- b. The Permittee shall maintain, calibrate, and operate a second dichotomous PM-10 sampler of the same brand and model as is currently required. This second unit shall be used to concurrently measure PM-10 at one of the sites in operation. These collocated samplers shall be operated on the same sampling schedule to determine PM-10 precision for the PCC particulate monitoring network. PM-10 precision data shall be calculated and reported as required by Appendix A of 40 CFR Part 58.

4. Reports

- a. Quarterly reports summarizing the PM-10 measurements and the precision data collected pursuant to this section shall be submitted before the 90th day of the following quarter. An annual report summarizing the quality assurance as required by Appendix A of 40 CFR Part 58 shall be submitted before the 90th day of the quarter following the fourth quarter of the calendar year. Two copies of the quarterly and annual reports shall be mailed, one to the Air Assessment Section and the other to the Permits Section of the Air Quality Division of ADEQ.
- b. The reports shall contain the following information specified by site. All concentration data shall be presented in micrograms per cubic meter.
 - (1) Date of each measurement;
 - (2) Particulate mass concentration in microgram per cubic meter in the size range 0 to 2.5 microns;
 - (3) Particulate mass concentration in microgram per cubic meter in the size range 2.5 to 10 microns;
 - (4) Total PM-10 concentration for each measurement;
 - (5) Precision estimates for the PM-10 data collected each quarter in the PCC network;
 - (6) Average PM-10 concentration for the quarter; and
 - (7) Results of laboratory analysis performed for the elemental mass concentrations required pursuant to Condition X.A.2 above.

5. Location of PM-10 Sites and Sampling Frequency

- a. Site locations for the PM-10 samplers shall remain the same as approved previously by ADEQ. If the Department concludes that other locations are preferable and feasible at a future date, the site locations shall be changed.
- b. Samples shall be collected on the national 6-day midnight to midnight sampling schedule. In the event that one of the three samplers malfunctions during a scheduled 24-hour period, special 24-hour samples using all three samplers shall be collected (regardless of the 6-day sampling schedule) starting as soon as practicable after the correction of the malfunction problem.
- c. Sampling, as may be required by the Department during a facility upset or failure of air pollution control equipment, shall supercede the normal 6-day sampling schedule.

B. Meteorological Monitoring

1. The Permittee shall continue to maintain and operate a meteorological monitoring station to record wind speed, vector wind direction, standard deviation of wind direction, Δt , and relative humidity. This monitoring shall be installed, maintained, and operated in compliance with EPA guidance. A monitoring protocol that addresses the items below shall be submitted and approved by ADEQ prior to installation.
2. All general requirements, meteorological station operations, and quality assurance initiatives shall be addressed in the Monitoring Protocol.
3. The meteorological data measurements shall be made continuously. In the event of system malfunction, the unit shall be repaired or replaced within 48 hours. Monitoring shall resume as soon as practicable after the correction of the malfunction problem.
4. Reports
 - a. A report summarizing the meteorological data measurements collected pursuant to this section shall be submitted before the 90th day of the following quarter. An annual report summarizing the quality assurance data shall be submitted before the 90th day of the quarter following the fourth quarter of the calendar year. Two paper and two electronic copies of the quarterly and annual reports shall be mailed, one of each to the Air Assessment Section and the other to the Compliance Section of the Air Quality Division of ADEQ.
 - b. The quarterly reports shall contain the information addressed in the monitoring protocol.
 - c. Computer files in the ASCII format, containing the hourly average meteorological measurement data specified above, shall be available for automated collection by the ADEQ DCS on a computer server provided by PCC. These daily data files must be available at least once per day, be in a consistent format, and be accessible at times acceptable to ADEQ. The computer files must contain:
 - (1) Date and hour of each measurement at each site; and
 - (2) Hourly average meteorological parameters specified above, in the appropriate measurement units, per the monitoring protocol.

ATTACHMENT “C”: EQUIPMENT LIST

Air Quality Control Permit No. 35426

For

Phoenix Cement Company

Process	Equipment Type	Equipment ID Number	Date of Mfg.	Manufacturer	Model Num.	Serial Num.	Max Capacity	Applicability				Control Device	Date of Inst.	Manif.	Flow CFM
								40 CFR 63 Subpart LLL	40 CFR 60 Subpart Y	40 CFR 60 Subpart OOO	40 CFR 64 CAM Rule				
Raw Material Primary and Secondary Crushing and Storage	Apron Feeder	AF-101	1988	Nico	FD-4255	906	500 tph			X					
	Apron Feeder	AF-102	1988	Nico	FD-4255	905	100 tph			X					
	Apron Feeder	AF-103	2004	Metso	AF5-30FS-10.25-15HP	NA	700 tph			X					
	Surge Bin	B-101	1959	NA	NA	NA	97 tons								
	Belt Conveyor	BC-101	1959	Hewitt Robins	NA	NA	950 tph								
	Belt Conveyor	BC-101A	1963	Hewitt Robins	NA	NA	950 tph								
	Belt Conveyor	BC-101B	1963	Hewitt Robins	NA	NA	950 tph								
	Belt Conveyor	BC-101C	1988	S&W Steel	NA	NA	1,000 tph			X					
	Belt Conveyor	BC-101D	1988	S&W Steel	NA	NA	1,000 tph			X					
	Belt Conveyor	BC-102	1959	Hewitt Robins	NA	NA	670 tph								
	Belt Conveyor	BC-102A	1959	Hewitt Robins	NA	NA	670 tph								
	Belt Conveyor	BC-102B	1988	S&W Steel	NA	NA	550 tph			X					
	Belt Conveyor	BC-103A	1959	Hewitt Robins	NA	NA	1200 tph								
	Belt Conveyor	BC-103B	1959	Hewitt Robins	NA	NA	1200 tph								
	Belt Conveyor	BC-103C	1988	S&W Steel	NA	NA	500 tph			X					
	Belt Conveyor	BC-103D	1988	S&W Steel	NA	NA	300 tph			X					
	Belt Conveyor	BC-103E	2002	NA	NA	NA	10 tph			X					
	Belt Conveyor	BC-103F	2002	NA	NA	NA	10 tph			X					
	Mill Scale Hopper	MSH-001	2005	AEF	NA	NA	100 tons								
	Apron Feeder	AF-104	2004	Metso	AF4-24FS-20.83-7.5 hp	NA	10 tph								
	Scavenger Screw	SCV-104	2004	Metso	NA	NA	NA								
	Belt Conveyor	BC-104	1959	Hewitt Robins	NA	NA	667 tph								
	Belt Conveyor	BC-104A	1988	NA	NA	NA	1000 tph			X		DC-201A	2006	FLS Airtech	4000
	Belt Conveyor	BC-104B	1988	NA	NA	NA	700 tph			X					
	Belt Conveyor	BC-214	1959	Hewitt Robins	NA	NA	667 tph								
	Primary Crusher	CR-101	1958	Allis Chalmers	60x48 A-1	3808	900 tph								
	Secondary Crusher	CR-102	1958	Williams	580	NA	700 tph								
	Tertiary Crusher	CR-103	2003	Atlantic Coast Crushers	FSM-1212-BB	NA	NA			X		DC-202	1985	Ultra Ind.	5000
	Wobler Feeder	F-101	1958	Universal	NA	424X92	NA								
	Vibrating Screen	VS-101	1958	Hewitt Robins	72X144	VD-6563	NA								
	Vibrating Screen	VS-102	1958	Hewitt Robins	72X92	VD-8182	NA								
	Vibrating Screen	VS-103	1958	Hewitt Robins	72X92	VD-8183	NA								

Process	Equipment Type	Equipment ID Number	Date of Mfg.	Manufacturer	Model Num.	Serial Num.	Max Capacity	Applicability				Control Device	Date of Inst.	Manif.	Flow CFM
								40 CFR 63 Subpart LLL	40 CFR 60 Subpart Y	40 CFR 60 Subpart OOO	40 CFR 64 CAM Rule				
	Rotary Feeder	RF-201	1986	Smoot	FT-12	NA	NA					DC-100	1986	Dusty Dustless	1000
	Dryer	FR-201	1966				NA					DC-202	1985	Ultra Ind.	5000
	Sample Mill	RM-201	1959	C.E. Raymond	3036 H.S.	58105	NA					DC-202	1985	Ultra Ind.	5000
	Weigh Feeder	W-101	1959	Jeffery	5100	29129	50 tph								
	Screw Conveyor	SC-101	1986	RJ Ruff	NA	NA	NA								
	Fly Ash Bin	B-201	1986	NA	NA	NA	187 tons					DC-100	1986	Dusty Dustless	1000
Raw Material Storage & Handling	Belt Conveyor	BC-201	1959	Hewitt Robins	NA	NA	500 tph								
	Belt Conveyor	BC-201A	1959	Hewitt Robins	NA	NA	500 tph								
	Belt Conveyor	BC-202	1959	Hewitt Robins	NA	NA	500 tph	X							
	Belt Conveyor	BC-203	1959	Hewitt Robins	NA	NA	500 tph	X							
	Belt Conveyor	BC-205	1959	Hewitt Robins	NA	NA	350 tph	X				DC-205	1959	Norblo	5832
	Belt Conveyor	BC-209	1959	Hewitt Robins	NA	NA	75 tph								
	Belt Conveyor	BC-210	1959	Hewitt Robins	NA	NA	700 tph	X							
	Belt Conveyor	BC-211	1959	Hewitt Robins	NA	NA	290 tph	X							
	Belt Conveyor	BC-212	1959	Hewitt Robins	NA	NA	290 tph	X				DC-205	1959	Norblo	5832
	Belt Conveyor	BC-213A	1996	Norfab	NA	NA	280 tph			X					
	Belt Conveyor	BC-301	1958	Hewitt Robins	NA	NA	350 tph	X				DC-304	1959	Norblo	12000
	Belt Conveyor	BC-206	1959	Hewitt Robins	NA	NA	350 tph	X							
	Belt Conveyor	BC-213	1959	Hewitt Robins	NA	NA	290 tph	X							
	Additive Hopper	HP-ADD	1996	Norfab	NA	NA	NA			X					
	Reclaimer	R-201	1983	R.E.	NA	NA	500 tph								
	Reclaimer	R-202	1983	R.E.	NA	NA	500 tph								
	Stacker	ST-201	1959	Hewitt Robins	NA	NA	500 tph								
	Stacker	ST-202	1959	Hewitt Robins	NA	NA	500 tph								
	Detachable Trailer	TT-201	1959	Hewitt Robins	NA	NA	500 tph								
	Detachable Trailer	TT-202	1959	Hewitt Robins	NA	NA	500 tph								
	Detachable Trailer	TT-203	1959	Hewitt Robins	NA	NA	500 tph								
	Detachable Trailer	TT-204	1959	Hewitt Robins	NA	NA	500 tph								
Raw Grinding System No. 1	Air Slide	AC-301	1997	Fuller	100 MM	NA	22 tph	X				DC-304	1959	Norblo	12000
	Air Slide	AC-302	1990	Fuller	350 MM	NA	380tph	X				DC-304	1959	Norblo	12000
	Air Slide	AC-316	1990	Fuller	480 MM	NA	760 tph	X				DC-301	1984	Fabric Filters NW	60000
	Raw Mix Bin	B-301	1959	NA	NA	NA	278 tons	X				DC-304	1959	Norblo	12000
	Belt Conveyor	BC-300	1990	S&W Steel	NA	NA	360 tph	X				DC-304	1959	Norblo	12000
	Belt Conveyor	BC-303	1990	S&W Steel	NA	NA	215 tph	X				DC-301	1984	Fabric Filters NW	60000
	Dryer	FR-300	1990	Conamara	Size 25	NA	24 MM btu/hr	X				DC-301	1984	Fabric Filters NW	60000
	Dryer	FR-301	1959	Hauck	NMG180A	NA	21.5 MM btu/hr	X				DC-301	1984	Fabric Filters NW	60000
	Ball Mill	BM-301	1959	FLSmith	12x19	NA	NA	X				DC-301	1984	Fabric Filters NW	60000
	Elevator	E-301	1990	Rexnord	NA	1636-2612-D	600 tph	X				DC-301	1984	Fabric Filters NW	60000
	Separator	SE-300	1990	Sepax	400-1F	NA	NA	X				DC-301	1984	Fabric Filters NW	60000
	Cyclone	CY-300	1990	FLSmith	NA	NA	NA	X				DC-301	1984	Fabric Filters	60000

Process	Equipment Type	Equipment ID Number	Date of Mfg.	Manufacturer	Model Num.	Serial Num.	Max Capacity	Applicability				Control Device	Date of Inst.	Manif.	Flow CFM
								40 CFR 63 Subpart LLL	40 CFR 60 Subpart Y	40 CFR 60 Subpart OOO	40 CFR 64 CAM Rule				
														NW	
	Cyclone	CY-301	1990	FLSmith	NA	NA	NA	X				DC-301	1984	Fabric Filters NW	60000
	FK Pump	PN-301	1958	Fuller	H-10-8214 Z conv.	NA	NA	X				DC-304	1959	Norblo	12000
	FK Pump	PN-341	1972	Fuller	10" Type Z Conv.	NA	NA	X				DC-304	1959	Norblo	12000
	Screw Conveyor	SC-301	1984	NA	NA	NA	NA	X				DC-301	1984	Fabric Filters NW	60000
	Weigh Feeder	W-301	1984	S&W Steel	NA	NA	215 tph	X				DC-304	1959	Norblo	12000
	Screw Conveyor	SC-310	1984	NA	NA	NA	NA	X				DC-304	1959	Norblo	12000
Swing Grinding System No. 2	Air Slide	AC-304	1959	Fuller	350 MM	NA	380 tph	X				DC-305	1959	Norblo	12000
	Air Slide	AC-305	1959	Fuller	400 MM	NA	475 tph	X				DC-305	1959	Norblo	12000
	Air Slide	AC-306	1959	Fuller	250 MM	NA	166 tph	X				DC-305	1959	Norblo	12000
	Air Slide	AC-311	1959	Fuller	250 MM	NA	166 tph	X				DC-305	1959	Norblo	12000
	Air Slide	AC-313	1959	Fuller	250 MM	NA	166 tph	X				DC-305	1959	Norblo	12000
	Air Slide	AC-314	1959	Fuller	250 MM	NA	166 tph	X				DC-305	1959	Norblo	12000
	Air Slide	AC-317	1958	Fuller	480 MM	NA	760 tph	X				DC-302	1959	Norblo	32700
	Air Slide	AC-321	1959	Fuller	400 MM	NA	475 tph	X				DC-305	1959	Norblo	12000
	Air Slide	AC-322	1959	Fuller	400 MM	NA	475 tph	X				DC-305	1959	Norblo	12000
	Air Slide	AC-329	1959	Fuller	400 MM	NA	475 tph	X				DC-305	1959	Norblo	12000
	Raw Mix Clinker Bin	B-302	1959	NA	NA	NA	200 Tons	X				DC-305	1959	Norblo	12000
	Belt Conveyor	BC-304	1958	Hewitt Robins	NA	NA	100 tph	X				DC-305	1959	Norblo	12000
	Ball Mill	BM-302	1959	FLSmith	12x19	NA	NA	X				DC-302	1959	Norblo	32700
	Cyclone	CY-302	1958	NA	NA	NA	NA	X				DC-302	1959	Norblo	32700
	Dryer BM302	FR-302	1959	Hauck	NMG180A	NA	21.5 MM btu/hr	X				DC-302	1959	Norblo	32700
	Bucket Elevator	E-302	1958	Jeffery	NA	NA	420 tph	X				DC-305	1959	Norblo	12000
	FK Pump	PN-302	1958	Fuller	H2-8-8215	NA	NA	X				DC-305	1959	Norblo	12000
	Screw Conveyor	SC-303	1959	NA	NA	NA	210 tph	X				DC-302	1959	Norblo	32700
	Screw Conveyor	SC-304	1959	NA	NA	NA	210 tph	X				DC-302	1959	Norblo	32700
	Screw Conveyor	SC-308	1959	NA	NA	NA	NA	X				DC-302	1959	Norblo	32700
	Screw Conveyor	SC-311	1959	NA	NA	NA	NA	X				DC-305	1959	Norblo	12000
	Separator	SE-303	1958	C.E. Raymond	14-0 D.W.	58089	NA	X				DC-302	1959	Norblo	32700
	Separator	SE-304	1958	C.E. Raymond	14-0 D.W.	58090	NA	X				DC-302	1959	Norblo	32700
	Weigh Feeder	W-303	1981	Ramsey	NA	NA	3 tph	X							
Feed Blending	Air Slide	AC-607	1995	BMH	500 MM	NA	760 tph	X				DC-601	1972	Mikropul	7200
	Air Slide	AC-608	1995	BMH	500 MM	NA	760 tph	X				DC-602	1988	Mikropul	7500
	Raw Meal Silo	S-601	1959	NA	NA	NA	1500 tons	X				DC-601	1972	Mikropul	7200
	Raw Meal Silo	S-602	1959	NA	NA	NA	1600 tons	X				DC-601	1972	Mikropul	7200
	Homogenizing Silo	S-605	1959	NA	NA	NA	2000 tons	X				DC-602	1988	Mikropul	7500
	Air Slide	AC-609	2001 2002	FBH	400 MM	NA	475 tph	X				DC-603	1996	Fuller Kovako	2500
	FK Pump	PN-601	2001 2002	FBH	350-M-00-10428-116	NA	NA	X				DC-604A	1998	Wheelabrator	1500

Process	Equipment Type	Equipment ID Number	Date of Mfg.	Manufacturer	Model Num.	Serial Num.	Max Capacity	Applicability				Control Device	Date of Inst.	Manif.	Flow CFM
								40 CFR 63 Subpart LLL	40 CFR 60 Subpart Y	40 CFR 60 Subpart OOO	40 CFR 64 CAM Rule				
	FK Pump	PN-602	2001 2002	FBH	350-M-00-10428-116-1	NA	NA	X				DC-603	1996	Fuller Kovako	2500
	Air Slide	AC-600	1995	BMH	400 MM	NA	475 tph	X				DC-606	1996	Wheelabrator	500
	Air Slide	AC-601	1995	BMH	400 MM	NA	475 tph	X				DC-606	1996	Wheelabrator	500
	Air Slide	AC-601A	1995	BMH	200 MM	NA	NA	X				DC-601	1972	Mikropul	7200
	Air Slide	AC-602	1995	BMH	400 MM	NA	475 tph	X				DC-605	1996	Fuller Kovako	2500
	Air Slide	AC-602A	1995	BMH	200 MM	NA	NA	X				DC-601	1972	Mikropul	7200
	Air Slide	AC-603	1995	BMH	400 MM	NA	475 tph	X				DC-605	1996	Fuller Kovako	2500
	Air Slide	AC-604	2001	FBH	400 MM	NA	475 tph	X				DC-603	1996	Fuller Kovako	2500
	Air Slide	AC-606	1995	BMH	400 MM	NA	475 tph	X				DC-603	1996	Fuller Kovako	2500
	Bucket Elevator	E-600	1995	Rexnord	1636-2812G	23361-1A	595 tph	X				DC-601	1972	Mikropul	7200
Kiln Feed	Alleviator	AM-407	2001 2002	FBH	90-0830-21320-532	106	NA	X				DC-409	2002	FBH	11350
	Bin	B-407	2001 2002	Schuff Steel	NA	NA	60 tons	X				DC-410	2002	FBH	2950
	Air Slide	AC-408	2001 2002	FBH	350 MM	NA	380 tph	X				DC-410	2002	FBH	2950
	Air Slide	AC-409	2001 2002	FBH	350 MM	NA	380 tph	X				DC-410	2002	FBH	2950
	Air Slide	AC-410	2001 2002	FBH	350 MM	NA	380 tph	X				DC-410	2002	FBH	2950
	Air Slide	AC-413	2001 2002	FBH	350 MM	NA	380 tph	X				DC-411	2002	FBH	1300
	Air Slide	AC-414	2001 2002	FBH	350 MM	NA	380 tph	X				DC-410	2002	FBH	2950
	Air Slide	AC-415	2001 2002	FBH	350 MM	NA	380 tph	X				DC-410	2002	FBH	2950
	Feeder	WS-404	2001 2002	Pfister	NA	NA	NA	X				DC-410	2002	FBH	2950
	Feeder	WS-405	2001 2002	Schenck	DLM-26	NA	280 tph	X				DC-410	2002	FBH	2950
Raw Grinding System No. 3	Apron Feeder	AF-360	2001 2002	Rexnord	R2342-K21	NA	410 tph	X				DC-431	2002	FBH	259200
	Air Slide	AC-360	2001 2002	F.B.H.	300 MM	NA	285 tph	X				DC-411	2002	FBH	1300
	Air Slide	AC-361	2001 2002	F.B.H.	300 MM	NA	285 tph	X				DC-411	2002	FBH	1300
	Air Slide	AC-362	2001 2002	F.B.H.	400 MM	NA	475 tph	X				DC-411	2002	FBH	1300
	Air Slide	AC-363	2001 2002	F.B.H.	400 MM	NA	475 tph	X				DC-367	2002	FBH	1850
	Air Slide	AC-364	2001 2002	F.B.H.	400 MM	NA	475 tph	X				DC-368	2002	FBH	1600
	Belt Conveyor	BC-360	2001 2002	Conveyor Engineering	NA	NA	315 tph	X				DC-366	2002	FBH	8400
	Belt Conveyor	BC-361	2001 2002	Conveyor Engineering	NA	NA	500 tph	X				DC-366	2002	FBH	8400
	Belt Conveyor	BC-363	2001 2002	Conveyor Engineering	NA	NA	184 tph	X				DC-366	2002	FBH	8400

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								40 CFR 63 Subpart LLL	40 CFR 60 Subpart Y	40 CFR 60 Subpart OOO	40 CFR 64 CAM Rule				
	Bucket Elevator	E-360	2001 2002	Rexnord	2126-2410F	NA	184 tph	X				DC-366	2002	FBH	8400
	Raw Mill Seal Bin	B-360	2001 2002	Schuff Steel	NA	NA	220 Tons	X				DC-366	2002	FBH	8400
	Cyclone	CY-360	2001 2002	FLSmith	L6300	NA	NA	X				DC-431	2002	FBH	259200
	Cyclone	CY-361	2001 2002	FLSmith	L6300	NA	NA	X				DC-431	2002	FBH	259200
	Raw Mill	RM-306	2001 2002	FLSmith	FRM38/170	NA	NA	X				DC-431	2002	FBH	259200
	Separator	SE-360	2001 2002	FLSmith	RAR37.5	NA	NA	X				DC-431	2002	FBH	259200
	Spillage Conveyor	BC-362	2001 2002	Rexnord	NA	NA	NA	X				DC-431	2002	FBH	259200
	FK Pump	PN-402	2001 2002	FLSmith	8-H2Z-00-10428-116-2	NA	NA	X				DC-367	2002	FBH	1850
	FK Pump	PN-403	2001 2002	FLSmith	8-H2Z-00-10428-116	NA	NA	X				DC-367	2002	FBH	1850
	Screw Conveyor	SC-430	2001 2002	FBH	10M320C166	NA	NA	X				DC-431	2002	FBH	259200
	Screw Conveyor	SC-431	2001 2002	FBH	10M320C166	NA	NA	X				DC-431	2002	FBH	259200
	Screw Conveyor	SC-432	2001 2002	FBH	10M320C166	NA	NA	X				DC-367	2002	FBH	1850
Pyroprocessing System	Eductor	FMRS-404	2004	Fox Venturi	4"	NA	0.5 tph	X				DC-431	2002	FBH	259200
	Pre-Heater	PH-404	2001 2002	FLSmith	NA	NA	NA	X				DC-431	2002	FBH	259200
	Pre-Heater	PH-405	2001 2002	FLSmith	NA	NA	NA	X				DC-431	2002	FBH	259200
	Pre-Heater	PH-406	2001 2002	FLSmith	NA	NA	NA	X				DC-431	2002	FBH	259200
	Pre-Heater	PH-407	2001 2002	FLSmith	NA	NA	NA	X				DC-431	2002	FBH	259200
	Pre-Heater	PH-408	2001 2002	FLSmith	NA	NA	NA	X				DC-431	2002	FBH	259200
	Calciner	CAL-404	2001 2002	FLSmith	ILC Low Nox	NA	NA	X				DC-431	2002	FBH	259200
	Kiln	K-404	2001 2002	FLSmith	4400x48000	NA	NA	X				DC-431	2002	FBH	259200
	Clinker Cooler	CC-404	2001 2002	FLSmith	SF3X4F	NA	NA	X				DC-445	2002	FBH	138000
	Screw Conveyor	SC-461	2001 2002	Transmission Products	NA	NA	26 tph	X				DC-445	2002	FBH	138000
	Screw Conveyor	SC-462	2001 2002	Transmission Products	NA	NA	45 tph	X				DC-445	2002	FBH	138000
	Screw Conveyor	SC-463	2001 2002	Transmission Products	NA	NA	45 tph	X				DC-445	2002	FBH	138000
	Screw Conveyor	SC-465	2001 2002	Transmission Products	NA	NA	26 TPH	X				DC-446	2002	FBH	2900
	Screw Conveyor	SC-466	2001 2002	Transmission Products	NA	NA	71 tph	X				DC-446	2002	FBH	2900
	Screw Conveyor	SC-467	2001 2002	Transmission Products	NA	NA	71 tph	X				DC-446	2002	FBH	2900

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								40 CFR 63 Subpart LLL	40 CFR 60 Subpart Y	40 CFR 60 Subpart OOO	40 CFR 64 CAM Rule				
Clinker Transport	Belt Conveyor	BC-402	2001 2002	Conveyor Engineering	NA	NA	300 tph	X				DC-448	2002	FBH	3100
	Belt Conveyor	BC-403	2001 2002	Conveyor Engineering	NA	NA	300 tph	X				DC-212	2002	Sly	2000
	Bucket Elevator	E-404	2001 2002	Rexnord	1626-1410B	NA	190 tph	X				DC-447	2002	FBH	7150
	Pan Conveyor	DBC-404	2001 2002	Rexnord	AFT	NA	190 TPH	X				DC-446	2002	FBH	2900
	Clinker Bin	B-404	2001 2002	Schuff Steel	NA	NA	1500 tons	X				DC-447	2002	FBH	7150
	Vibrating Feeder	VF-404	2001 2002	Jeffery	NF 3605	1006919A	165 tph	X				DC-447	2002	FBH	7150
Clinker Storage and Transport	Belt Conveyor	BC-216	2001 2002	Watkins	NA	NA	336 tph	X				DC-213	2002	Sly	4000
	Belt Conveyor	BC-217	2001 2002	Watkins	NA	NA	336 tph	X				DC-214	2002	Sly	4000
	Belt Conveyor	BC-309	2001 2002	Watkins	NA	NA	336 tph	X				DC-316	2002	FBH	3100
	Clinker Storage Dome	DO-200	2001 2002	Dome Technology	NA	NA	100,000 tons	X				DC-213	2002	Sly	4000
	Clinker Storage Dome	DO-201	2001 2002	Dome Technology	NA	NA	25,000 tons	X				DC-214	2002	Sly	4000
	Belt Conveyor	BC-310	2001 2002	Conveyor Engineering	NA	NA	300 tph	X				DC-312	2002	FBH	6050
Coal and Coke Handling and Grinding	Belt Conveyor	BC-460	1974	Thomas Conveyor	NA	NA	250 tph		X			DC-460	1974	FBH	6000
	Belt Conveyor	BC-461	1974	Thomas Conveyor	NA	NA	250 tph		X						
	Belt Conveyor	BC-462	1974	Thomas Conveyor	NA	NA	250 tph		X			DC-450	2002	FBH	3000
	Belt Conveyor	BC-463	1974	Thomas Conveyor	NA	NA	250 tph		X			DC-460	1974	FBH	6000
	Belt Feeder	BC-464	1974	Thomas Conveyor	NA	NA	32 tph		X						
	Crusher	CR-460	1974	Pennsylvania Crusher	TK-8-32B	4160-02	250 tph		X			DC-460	1974	FBH	6000
	Vibrating Feeder	F-460	1974	Westinghouse	V4ALT-PLAN-10T-SPL	NA	150 tph		X						
	Vibrating Feeder	F-461	1974	Westinghouse	V4ALT-PLAN-10T-SPL	NA	150 tph		X						
	Screw Feeder	SC-465-0	1974	NA	NA	NA	32 tph		X						
	Belt Conveyor	BC-451	2001 2002	Transmission Products	NA	NA	150 tph		X			DC-452	2002	FBH	5360
	Belt Conveyor	BC-453	2001 2002	Transmission Products	NA	NA	150 tph		X			DC-452	2002	FBH	5360
	Coal Bin	B-450	2001 2002	Schuff Steel	NA	NA	400 tons		X			DC-452	2002	FBH	5360
	Pet-Coke Bin	B-451	2001 2002	Schuff Steel	NA	NA	175 tons					DC-452	2002	FBH	5360
	Weigh Feeder	W-450	2001 2002	Schenck	DMO	NA	33.9 tph		X			DC-451	2002	FBH	3720
	Weigh Feeder	W-451	2001 2002	Schenck	DMO	NA	33.9 tph					DC-451	2002	FBH	3720

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								40 CFR 63 Subpart LLL	40 CFR 60 Subpart Y	40 CFR 60 Subpart OOO	40 CFR 64 CAM Rule				
	Belt Conveyor	BC-454	2001 2002	Conveyor Engineering	NA	NA	34 tph		X			DC-451	2002	FBH	3720
	Separator	SE-450	2001 2002	FLSmith	KF-128-A160	481-104-579	NA	X	X			DC-453	2002	FBH	38800
	Coal Mill	RM-450	2001 2002	FLSmith	FRM19/26	NA	NA	X	X			DC-453	2002	FBH	38800
	Screw Conveyor	SC-456	2001 2002	FLSmith	MSDS-A 290	NA	NA		X			DC-453	2002	FBH	38800
	Rail Car Hopper	HP-460A	1974	NA	NA	NA	44.5		X						
	Rail Car Hopper	HP-460B	1974	NA	NA	NA	44.5		X						
	Coal Unelevator	UE-461	1974	NA	NA	NA	NA		X						
	Coal Hopper	HP-461	1974	NA	NA	NA	100 tons		X						
	Coke Hopper	HP-462	1974	NA	NA	NA	100 tons		X						
Coal and Coke Grinding & Firing	Pulverized Fuel Bin	B-452	2001 2002	Schuff Steel	NA	NA	20 tons		X			DC-454	2002	FBH	30
	Pulverized Fuel Bin	B-453	2001 2002	Schuff Steel	NA	NA	20 tons		X			DC-455	2002	FBH	30
	Screw Conveyor	SC-453	2001 2002	Conveyor Engineering	NA	NA	48 tph	X				DC-453	2002	FBH	38800
	Screw Conveyor	SC-454	2001 2002	Conveyor Engineering	NA	NA	48 tph	X				DC-454/455	2002	FBH	30
	Screw Conveyor	SC-455	2001 2002	Conveyor Engineering	NA	NA	48 tph	X				DC-454/455	2002	FBH	30
	Feeder	PW-452	2001 2002	Pfister	DRW 3.10	NA	NA	X				DC-431	2002	FBH	259200
	Feeder	PW-451	2001 2002	Pfister	DRW 3.10	NA	NA	X				DC-431	2002	FBH	259200
Mill Feed/ Clinker & Gypsum Handling	Gypsum Bin	B-300	Pre-3/24/98	NA	NA	NA	100 tons	X							
	Clinker Bin	B-303	1959	NA	NA	NA	200 tons	X				DC-306	1959	Norblo	12000
	Clinker Bin	B-340	1974	NA	NA	NA	100 tons	X				DC-342	1972	Mikropul	5000
	Gypsum Bin	B-341	1974	NA	NA	NA	40 tons	X				DC-342	1972	Mikropul	5000
	Belt Conveyor	BC-303A	1998	Airbelt	12"	NA	5 tph	X				DC-304	1959	Norblo	12000
	Screw Conveyor	SC-312	1974	NA	NA	NA	NA	X				DC-306	1959	Norblo	12000
	Weigh Feeder	W-345	1998	Tecnetics	WF10	NA	5 tph	X							
	Belt Conveyor	BC-312	2001 2002	Conveyor Engineering	NA	NA	300 tph	X				DC-312	2002	FBH	6050
	Belt Conveyor	BC-313	2001 2002	Conveyor Engineering	NA	NA	300 tph	X				DC-306	1959	Norblo	12000
	Belt Conveyor	BC-350	2001 2002	Conveyor Engineering	NA	NA	176 tph	X				DC-352	2002	FBH	10000
	Clinker Bin	B-350	2001 2002	Schuff Steel	NA	NA	250 tons	X				DC-312	2002	FBH	6050
	Gypsum Bin	B-351	2001 2002	Schuff Steel	NA	NA	100 tons	X				DC-312	2002	FBH	6050
	Scavenger Conveyor	SC-350	2001 2002	Schenck	NA	NA	NA	X				DC-352	2002	FBH	10000
	Scavenger Conveyor	SC-351	2001 2002	Schenck	NA	NA	NA	X				DC-352	2002	FBH	10000
	Weigh Feeder	W-350	2001 2002	Schenck	DMO	NA	161 tph	X				DC-352	2002	FBH	10000

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								40 CFR 63 Subpart LLL	40 CFR 60 Subpart Y	40 CFR 60 Subpart OOO	40 CFR 64 CAM Rule				
	Weigh Feeder	W-351	2001 2002	Schenck	DMO	NA	15 tph	X				DC-352	2002	FBH	10000
Finish Milling	Gypsum Hopper	HP-301	2001 2002	NA	NA	NA	NA	X							
	Gypsum Feeder	F-301	2001 2002	Oldenburg Stamler	BF-7Q-0-100	13609	300 tph	X							
Finish Mill	Air Slide	AC-307	1959	Fuller	250 MM	NA	166 tph	X				DC-303	1959	Norblo	32700
No. BM 303	Air Slide	AC-308	1959	Fuller	400 MM	NA	475 tph	X				DC-303	1959	Norblo	32700
	Air Slide	AC-309	1959	Fuller	250 MM	NA	166 tph	X				DC-303	1959	Norblo	32700
	Aft Slide	AC-312	1959	Fuller	250 MM	NA	166 tph	X				DC-303	1959	Norblo	32700
	Air Slide	AC-315	1959	Fuller	250 MM	NA	166 tph	X				DC-306	1959	Norblo	12000
	Air Slide	AC-318	1958	Fuller	480 MM	NA	760 tph	X				DC-306	1959	Norblo	12000
	Air Slide	AC-323	1959	Fuller	400 MM	NA	475 tph	X				DC-303	1959	Norblo	32700
	Air Slide	AC-324	1959	Fuller	400 MM	NA	475 tph	X				DC-303	1959	Norblo	32700
	Air Slide	AC-330	1959	Fuller	400 MM	NA	475 tph	X				DC-303	1959	Norblo	32700
	Air Slide	AC-331	1959	Fuller	250 MM	NA	166 tph	X				DC-306	1959	Norblo	12000
	Belt Conveyor	BC-305	1958	Hewitt Robins	NA	NA	100 tph	X				DC-306	1959	Norblo	12000
	Ball Mill	BM-303	1959					X				DC-303	1959	Norblo	32700
	Cyclone	CY-303	1958	NA	NA	NA	NA	X				DC-303	1959	Norblo	32700
	Bucket Elevator	E-303	1958	Jeffery	NA	NA	420 tph	X				DC-306	1959	Norblo	12000
	Screw Conveyor	SC-305	1959	NA	NA	NA	NA	X				DC-303	1959	Norblo	32700
	Screw Conveyor	SC-309	1959	NA	NA	NA	NA	X				DC-303	1959	Norblo	32700
	Screw Conveyor	SC-306	1959	NA	NA	NA	210 tph	X				DC-303	1959	Norblo	32700
	Separator	SE-305	1958	C.E. Raymond	14-0 D.W.	58091	210 tph	X				DC-303	1959	Norblo	32700
	Separator	SE-306	1958	C.E. Raymond	14-0 D.W.	58092	NA	X				DC-303	1959	Norblo	32700
	Weigh Feeder	W-305	1981	Ramsey	NA	NA	3 tph	X							
Finish Mill	Air Slide	AC-340	1972	Fuller	350 MM	NA	380 tph	X				DC-341	1972	Mikropul	10000
No. BM 304	Air Slide	AC-341	1972	Fuller	250 MM	NA	166 tph	X				DC-340	1972	Mikropul	20000
	Air Slide	AC-342	1972	Fuller	250 MM	NA	166 tph	X				DC-340	1972	Mikropul	20000
	Air Slide	AC-343	1972	Fuller	250 MM	NA	166 tph	X				DC-340	1972	Mikropul	20000
	Air Slide	AC-344	1972	Fuller	250 MM	NA	166 tph	X				DC-340	1972	Mikropul	20000
	Air Slide	AC-346	1983	Fuller	100 MM	NA	22 tph	X				DC-309	1983	FlexKleen	2400
	Air Slide	AC-347	1983	Fuller	100 MM	NA	22 tph	X				DC-308	1983	Ultra Ind.	2500
	Fly Ash Bin	B-342	1983	Brown Tank	NA	NA	500 tons	X				DC-309	1983	FlexKleen	2400
	Hydrated Lime Bin	B-343	1983	Brown Tank	NA	NA	105 tons	X				DC-308	1983	Ultra Ind.	2500
	Belt Conveyor	BC-341	1974	Airbelt	NA	NA	10 tph	X				DC-344	1972	Mikropul	5000
	Belt Conveyor	BC-342	1974	Airbelt	NA	NA	10 tph	X				DC-344	1972	Mikropul	5000
	Belt Conveyor	BC-343	1997	Cambelt	CWR2445-6	NA	21.7 tph	X				DC-340	1972	Mikropul	20000
	Ball Mill	BM-304	1972	Allis Chalmers	9.5 X 33	NA	NA	X				DC-341	1972	Mikropul	10000
	Bucket Elevator	E-340	1972	Rexnord	NA	4120-04	300 tph	X				DC-341	1972	Mikropul	10000
	FK Pump	PN-340	1972	Fuller	8" Z Conv	NA	125 tph	X				DC-343	1998	Mikropul	1500
	Screw Conveyor	SC-320	1974	NA	NA	NA	NA	X				DC-306/DC-341/DC-343	1959	Norblo	12000
	Screw Conveyor	SC-316	1974	NA	NA	NA	NA	X				DC-306	1959	Norblo	12000
	Screw Conveyor	SC-317	1974	NA	NA	NA	NA	X				DC-306	1959	Norblo	12000

Process	Equipment Type	Equipment ID Number	Date of Mfg.	Manufacturer	Model Num.	Serial Num.	Max Capacity	Applicability				Control Device	Date of Inst.	Manif.	Flow CFM
								40 CFR 63 Subpart LLL	40 CFR 60 Subpart Y	40 CFR 60 Subpart OOO	40 CFR 64 CAM Rule				
	Screw Conveyor	SC-340	1974	NA	NA	NA	204 tph	X				DC-340	1972	Mikropul	20000
	Screw Conveyor	SC-341	1974	NA	NA	NA	NA	X				DC-340	1972	Mikropul	20000
	Screw Conveyor	SC-342	1974	NA	NA	NA	NA	X				DC-341	1972	Mikropul	10000
	Separator	SE-307	1972	C.E. Raymond	16-0 D.W.	NA	NA	X				DC-340	1972	Mikropul	20000
	Weigh Belt Conveyor	W-340	1974	Merrick	NA	NA	50 tph	X				DC-341	1972	Mikropul	10000
	Weigh Belt Conveyor	W-341	1974	Merrick	NA	NA	5 tph	X				DC-341	1972	Mikropul	10000
	Weigh Belt Conveyor	W-342	1974	NA	NA	NA	NA	X							
	Hopper w/ Scale	WS-340	1974	NA	NA	NA	NA	X				DC-309	1983	FlexKleen	2400
	Hopper w/ Scale	WS-341	1974	NA	NA	NA	NA	X				DC-308	1983	Ultra Ind.	2500
Clinker Grinding OK Mill	FK Pump	PN-350	1959	Fuller	10" Z Conv	NA	NA	X				DC-350	2002	FBH	228000
	FK Pump	PN-351	1959	Fuller	10" Z Conv	NA	NA	X				DC-350	2002	FBH	228000
	Air Slide	AC-350	2001 2002	F.B.H.	300 MM	NA	285 tph	X				DC-350	2002	FBH	228000
	Air Slide	AC-351	2001 2002	F.B.H.	300 MM	NA	285 tph	X				DC-350	2002	FBH	228000
	Air Slide	AC-352	2001 2002	F.B.H.	300 MM	NA	285 tph	X				DC-350	2002	FBH	228000
	Air Slide	AC-353	2001 2002	F.B.H.	300 MM	NA	285 tph	X				DC-350	2002	FBH	228000
	Air Slide	AC-354	2001 2002	F.B.H.	300 MM	NA	285 tph	X				DC-350	2002	FBH	228000
	Air Slide	AC-355	2001 2002	F.B.H.	300 MM	NA	285 tph	X				DC-350	2002	FBH	228000
	Surge Bin	B-352	2001 2002	Schuff Steel	NA	NA	NA	X				DC-352	2002	FBH	10000
	Belt Conveyor	BC-351	2001 2002	Conveyor Engineering	NA	NA	241 tph	X				DC-352	2002	FBH	10000
	Bucket Elevator	E-350	2001 2002	Rexnord	1626-1810B	NA	240 tph	X				DC-352	2002	FBH	10000
	Chain Conveyor	DCH-350	2001 2002	Rexnord	20"	NA	65 tph	X				DC-350	2002	FBH	228000
	Chain Conveyor	DCH-351	2001 2002	Rexnord	20"	NA	65 tph	X				DC-350	2002	FBH	228000
	Dryer	FR-350	2001 2002	Conamara	NA	NA	15 MM btu/hr	X				DC-350	2002	FBH	228000
	OK Mill	RM-305	2001 2002	FLSmith	OK 33-4	NA	NA	X				DC-350	2002	FBH	228000
	Separator	SE-308	2001 2002	FLSmith	OKS 70	NA	NA	X				DC-350	2002	FBH	228000
Bag Packing	Air Slide	AC-501	1985	Halliburton	400 MM	NA	475 tph	X				DC-501	2003	BHA	8210
	Air Slide	AC-502	1985	Halliburton	400 MM	NA	475 tph	X				DC-505	2004	BHA	8210
	Air Slide	AC-505	1959	Fuller	400 MM	NA	475 tph	X				DC-504	1959	Pangborn	6000
	Air Slide	AC-506	1959	Fuller	400 MM	NA	475 tph	X				DC-501	2003	BHA	8210
	Air Slide	AC-513	1960	Fuller	300 MM	NA	285 tph	X				DC-505	2004	BHA	8210
	Air Slide	AC-514	2005	Fuller	400 MM	NA	475 tph	X				DC-504	1959	Pangborn	6000
	Air Slide	AC-515	2005	Fuller	400 MM	NA	475 tph	X				DC-504	1959	Pangborn	6000
	Air Slide	AC-516	1959	Fuller	200 MM	NA	118 tph	X				DC-505	2004	BHA	8210

Process	Equipment Type	Equipment ID Number	Date of Mfg.	Manufacturer	Model Num.	Serial Num.	Max Capacity	Applicability				Control Device	Date of Inst.	Manif.	Flow CFM
								40 CFR 63 Subpart LLL	40 CFR 60 Subpart Y	40 CFR 60 Subpart OOO	40 CFR 64 CAM Rule				
	Air Slide	AC-519	1959	Fuller	400 MM	NA	475 tph	X				DC-507	1980	Mikropul	755
	Air Slide	AC-518	1959	Fuller	200 MM	NA	118 tph	X				DC-507	1980	Mikropul	755
	Bin	B-501	2005	TWI	NA	NA	NA	X				DC-501	2003	BHA	8210
	Bin	B-502	2005	TWI	NA	NA	NA	X				DC-505	2004	BHA	8210
	Belt Conveyor	BBG-501	2005	Vento Matic	NA	NA	NA	X				DC-511	2005	Scientific	13000
	Belt Conveyor	BC-501	2005	Vento Matic	NA	NA	NA	X				DC-511	2005	Scientific	13000
	Bucket Elevator	BE-501	1959	Link Belt	NA	NA	NA	X				DC-501	2003	BHA	8210
	Bucket Elevator	BE-502	1959	Link Belt	NA	NA	NA	X				DC-505	2004	BHA	8210
	Bag Packer	BP-503	2005	Vento Matic	NA	NA	NA	X				DC-511	2005	Scientific	13000
	Bag Cutter	BS-501	2005	Vento Matic	NA	NA	NA	X				DC-511	2005	Scientific	13000
	FK Pump	PN-501	2005	Fuller	10" Z Conv	NA	NA	X				DC-504	1959	Pangborn	6000
	Rotary Screen	RSC-501	2005	Vento Matic	NA	NA	NA	X				DC-511	2005	Scientific	13000
	Screw Conveyor	SC-501	1982	NA	NA	NA	NA	X				DC-501/505	2003/2004	BHA	8210
	Screw Conveyor	SC-502	1982	NA	NA	NA	NA	X				DC-501/505	2003/2004	BHA	8210
	Screw Conveyor	SC-503	2005	Vento Matic	NA	NA	NA	X				DC-511	2005	Scientific	13000
	Screw Conveyor	SC-504	2005	Vento Matic	NA	NA	NA	X				DC-511	2005	Scientific	13000
	Screw Conveyor	SC-505	2005	Vento Matic	NA	NA	NA	X				DC-511	2005	Scientific	13000
	Screw Conveyor	SC-506	2005	Vento Matic	NA	NA	NA	X				DC-511	2005	Scientific	13000
	Screw Conveyor	SC-507	2005	Vento Matic	NA	NA	NA	X				DC-511	2005	Scientific	13000
	Screw Conveyor	SC-508	2005	Vento Matic	NA	NA	NA	X				DC-501/505	2003/2004	BHA	8210
	Vibratory Feeder	VF-501	2005	Vento Matic	NA	NA	NA	X				DC-501	2003	BHA	8210
	Vibratory Feeder	VF-502	2005	Vento Matic	NA	NA	NA	X				DC-505	2004	BHA	8210
Bulk Loading	East Side Scale Loadout	AC-507	1959	Fuller	400 MM	NA	475 tph	X				DC-503	1959	Mikropul	3000
	Air Slide	AC-508	1985	Halliburton	400 MM	NA	475 tph	X				DC-504	1959	Pangborn	6000
	West Side Scale Loadout	AC-509	1985	Halliburton	400 MM	NA	475 tph	X				DC-504	1959	Pangborn	6000
	Air Slide	AC-511	1976	Fuller	400 MM	NA	475 tph	X				DC-501/505	2003/2004	BHA	8210
	Air Slide	AC-512	1976	Fuller	200 MM	NA	118 tph	X				DC-504	1959	Pangborn	6000
	West Side Scale Loadout	LSP	2003	DCL	UN600EV-06VT	NA	1282 tph	X				DC-504	1959	Pangborn	6000
	East Side Scale Loadout	LSP	2003	DCL	UN600EV-06VT	NA	1282 tph	X				DC-503	1959	Mikropul	3000
Cement Storage	Silo 15/16 Loadout	LSP	1976	Midwesco	NA	NA	1282 tph	X				DC-507	1980	Mikropul	755
	Screw Conveyor	SC-510	2001 2002	NA	NA	NA	NA	X				DC-510	2002	FBH	13300
	Silo 15	S-15	1976	NA	NA	NA	753 tons	X				DC-512	2005	FLS Airtech	8000
	Silo 16	S-16	1976	NA	NA	NA	753 tons	X				DC-512	2005	FLS Airtech	8000
	South Finish Silo 1	S-1	1959	NA	NA	NA	2764 tons	X				DC-508	1986	Ecolaire	5000

Process	Equipment Type	Equipment ID Number	Date of Mfg.	Manufacturer	Model Num.	Serial Num.	Max Capacity	Applicability				Control Device	Date of Inst.	Manif.	Flow CFM
								40 CFR 63 Subpart LLL	40 CFR 60 Subpart Y	40 CFR 60 Subpart OOO	40 CFR 64 CAM Rule				
	South Finish Silo 2	S-2	1959	NA	NA	NA	3257 tons	X				DC-508	1986	Ecolaire	5000
	South Finish Silo 6	S-6	1959	NA	NA	NA	3156 tons	X				DC-508	1986	Ecolaire	5000
	South Finish Silo 7	S-7	1959	NA	NA	NA	3244 tons	X				DC-508	1986	Ecolaire	5000
	South Finish Silo 11	S-11	1959	NA	NA	NA	881 tons	X				DC-508	1986	Ecolaire	5000
	South Finish Silo 12	S-12	1959	NA	NA	NA	881 tons	X				DC-508	1986	Ecolaire	5000
	Cement Silo 3	S-3	1959	NA	NA	NA	3136 tons	X				DC-510	2002	FBH	13300
	Cement Silo 4	S-4	1959	NA	NA	NA	3029 tons	X				DC-510	2002	FBH	13300
	Cement Silo 5	S-5	1959	NA	NA	NA	2922 tons	X				DC-510	2002	FBH	13300
	Cement Silo 8	S-8	1959	NA	NA	NA	3136 tons	X				DC-510	2002	FBH	13300
	Cement Silo 9	S-9	1959	NA	NA	NA	3012 tons	X				DC-510	2002	FBH	13300
	Cement Silo 10	S-10	1959	NA	NA	NA	2922 tons	X				DC-510	2002	FBH	13300
	Cement Silo 13	S-13	1959	NA	NA	NA	834 tons	X				DC-510	2002	FBH	13300
	Cement Silo 14	S-14	1959	NA	NA	NA	650 tons	X				DC-510	2002	FBH	13300
Cooling Towers	Mill Cooling Tower	CTWR-300	1959	Marley	NA	NA	NA								
	RM-305 Cooling Tower	CTWR-302	2001 2002	Marley	AV-61002, G-235	NA	NA								
	Kiln - Raw Mill Cooling Tower	CTWR-400	2001 2002	Marley	AV-61002, G-235	NA	NA								

NA = Not Applicable or Not Available

ATTACHMENT “D”: DUST CONTROL PLAN

Air Quality Control Permit No. 35426 For Phoenix Cement Company

I. INTRODUCTION

A. Requirements and Policy

Arizona Administrative Code Title 18, Chapter 2, (AAC R18-2) Article 6 requires that an operator take reasonable precautions to prevent excess amounts of particulate matter (PM) from becoming airborne from sources of fugitive dust, including open areas, roadways and streets, material handling, and storage piles. Under AAC R18-2-610, opacity from any nonpoint source shall not be greater than 40 percent, measured in accordance with the Arizona Testing Manual, Reference Method 9.

Phoenix Cement Company’s (PCC’s) dust control goals include ongoing road-paving activities, watering or otherwise treating unpaved roads and parking areas, taking other reasonable precautions to prevent excess amounts of PM from becoming airborne, and to maintain compliance with the 40 percent opacity standard. PCC will accomplish these goals with diligent use of practical methods, equipment, and procedures currently utilized at the Clarkdale facility. PCC is committed to operating as an environmentally responsible producer of quality cement products.

B. Background

The PCC Clarkdale facility includes a cement manufacturing plant and an adjacent quarry. The cement plant utilizes rotary kilns fired by coal/coke, coal, and natural gas to produce cement from various types of materials, including limestone, volcanic ash, and mill scale.

Limestone and other types of rock are blasted and transported by haul trucks from the quarry to the primary crusher or to stockpiles. Crushed rock is routed to surge piles for subsequent transfer to the secondary crusher. The secondary crusher is used in conjunction with feeders and screens to further reduce the size of the rock that is sent to raw mill storage bays.

The crushed rock is conveyed from the storage bays to the raw mill for grinding via the rock bin, elevator and separator. Milled material (raw meal) is transported to the blending system, and then it is transported into feed bins from which the meal is discharged to the pyroprocessing system.

The heart of the Portland cement manufacturing process is the pyroprocessing system, namely, Kiln 4. This system transforms the raw mix into clinkers, which are gray, glass-hard, spherically shaped nodules. Emission sources in the clinker handling and storage facility are eliminated by the use of indoor clinker storage enclosures (domes).

During normal operations, PCC utilizes water trucks regularly on haul roads and other unpaved roads to prevent excessive airborne dust generation. Water trucks operate on a regular basis whenever roads are in use.

II. CONTROL PLAN

A. Roads

Various types of dust control measures may be utilized by PCC to minimize fugitive emissions from unpaved roads. Haul roads between the quarry and the primary crusher are regularly watered on all days on which haul trucks operate. Other unpaved roads on the facility are regularly watered

and/or treated with dust suppressants and/or chemical stabilizers as necessary to minimize dust from vehicular traffic and high winds.

This Dust Control Plan requires PCC to ensure that water trucks operate on each day on which haul trucks and/or other vehicular traffic occurs. If water trucks are not operated on a particular day, PCC shall record the date and the reason for non-operation.

B. Open Areas

Open areas, such as unpaved parking areas and other level areas, are regularly watered and/or treated with dust suppressants and/or chemical stabilizers as necessary to minimize dust from vehicular traffic and high winds. PCC shall ensure that water trucks operate on each day on which vehicular traffic occurs in unpaved open areas. If water trucks are not operated on a particular day, PCC shall record the date and the reason for non-operation.

C. Storage Piles

PCC has eliminated outdoor clinker storage and handling with the construction of two domed enclosures. A significant reduction in airborne fugitive dust was achieved by construction of the domes. Only raw feed is stored in outdoor storage piles. PCC adds dust suppressants and/or water to the raw feed during the primary and secondary crushing processes. As a result, the raw feed piles contain high-moisture, treated material which does not become airborne in excessive amounts.

PCC shall ensure that raw feed stored in outdoor storage piles has sufficient moisture content, or has been otherwise sufficiently treated with dust suppressants, to prevent excessive airborne dust generation. If excessive airborne dust is observed, PCC shall record the date and determine the reason(s) for the event.

D. Other Control Techniques

PCC is continually evaluating and, when practical, implementing a program to pave plant roads. In addition, PCC continues to evaluate binders, dust suppressants, and construction techniques that provide a safe, economical and environmentally responsible means of managing fugitive dust.

III. MONITORING

PCC shall conduct a visual survey on a daily basis to ensure that excessive amounts of fugitive dust are not becoming airborne. If excessive dust is observed, PCC shall record the date and the reasons.

ATTACHMENT “E”: OPERATION AND MAINTENANCE PLAN

**Air Quality Control Permit No. 35426
For
Phoenix Cement Company**

CT# 117788
ADEQ
AIR QUALITY DIVISION
NOV 15 AM 11:38

**OPERATION AND MAINTENANCE PLAN
FOR
AFFECTED SOURCES UNDER 40 CFR 63 SUBPART LLL**

**PHOENIX CEMENT COMPANY
CLARKDALE, ARIZONA**

Prepared for:

PHOENIX CEMENT

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November 2005